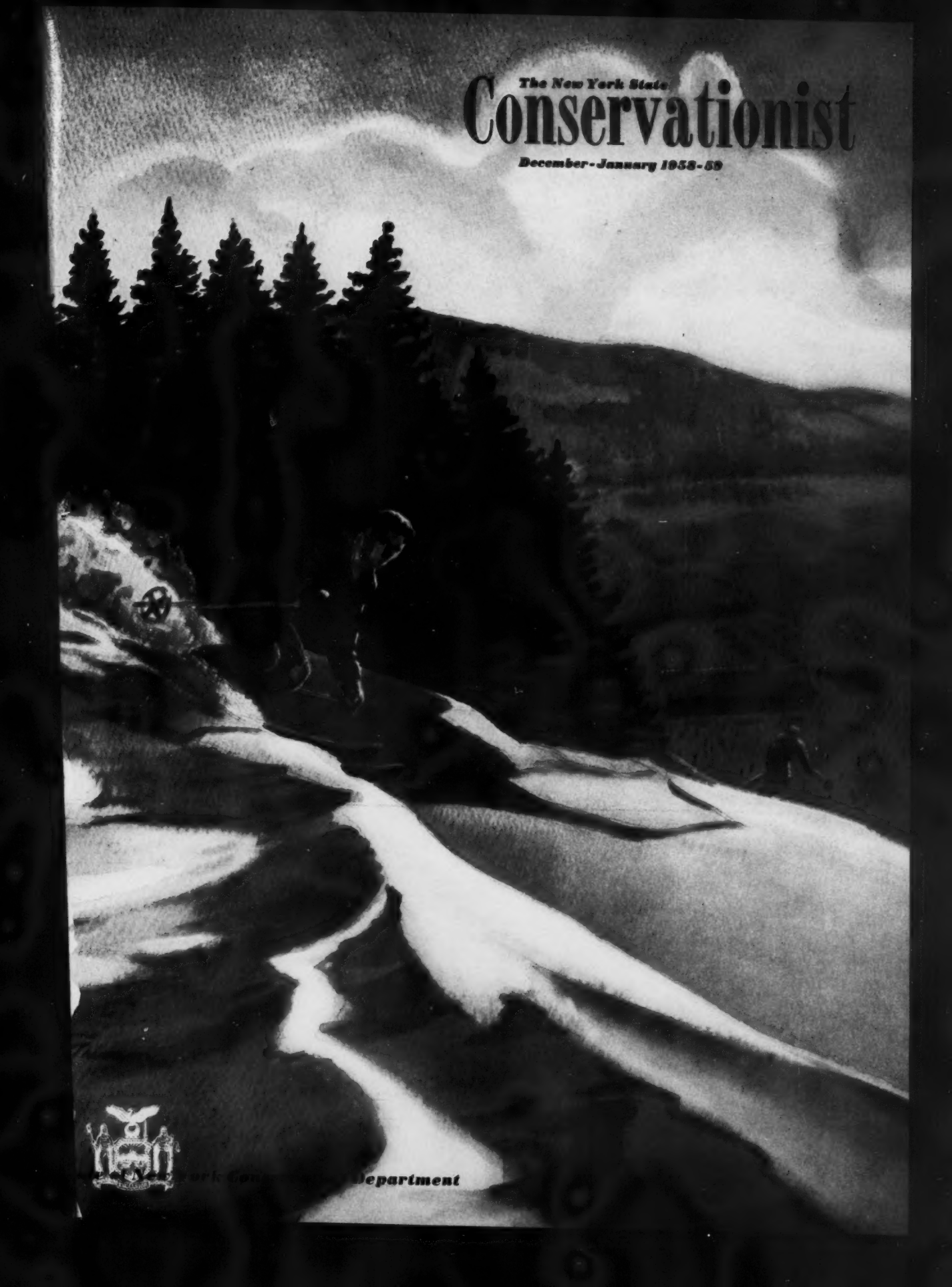
The New York State
Conservationist
December-January 1958-59
Department

Bounty vs Blight

We wish, in this issue of THE CONSERVATIONIST, to call our readers' attention particularly to the centerspread pages—24 and 25. Here (in brief recess from our natural history series) you will find depicted, on the one hand, a valley where men have done just about everything possible to bring the land where they live to ruin and desolation. Then, just over a dividing ridge, we have another valley in sharp contrast—a land where men have learned to live harmoniously in their environment; to use the natural resources at their disposal in such manner as to complement and enhance their values.

All this, we hasten to point out, is not a new idea. We've simply recaptured a theme that was used very effectively some years ago by Clayt Seagears. He made the point in "before" and "after" cartoon drawings as part of a Cornell *Rural School Leaflet* featuring "The Story of Conservation in New York." More recently, the late Dr. Paul Eschmeyer, using a watershed divide as a springboard, drew the same sharp contrast in good use vs abuse of natural resources.

No, it's not an original idea but it is, none the less, a good one we think, and well worth repeating. We will agree, too, with Harlan Brumsted, author of the accompanying article, "The Land Where We Live," that you are not going to walk over the ridge some day and look down into a valley of such violent contrasts. It's pretty difficult, as a matter of fact, to split the valley and find in any single area so many criminal abuses on the one hand; or—moving to the brighter side—so many instances of intelligent conservation of natural resources.

But we'll wager that if you'll look closely at the land where *you* live: at your own community—you will find evidence of most or all of the elements of misuse we've depicted. We are equally sure, however, that your inspection, sharpened, we hope, by artist Trimm's centerspread painting, will turn up more than one example of man's growing awarenes of the need to work *with* the land; not against it. This is a challenge we must understand and meet. If we fail, the traditional season's greeting: "Happy New Year," will one day fall on our ears like a curse.—Editor.

Note: Full color reproductions of The Natural Resources centerspread, especially helpful for classroom use, are available upon request.

The New York State

Conservationist

DECEMBER-JANUARY, 1958-59

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What About Shooting Preserves?

Their Origin — Their Function — Their Future

by Earl R. Holm, *Superintendent, Game Farms*

EARLY sun slanted across the frosted land as the two hunters released their dogs from the station wagon. These men had worked the cover before and their dogs, following at heel, remembered as well as their masters that this was the place where pheasants were so abundant. Quickly they followed the lane a short quarter-mile to the cover they were to hunt. Shells clicked into the chambers of both guns and on command, the dogs started to quarter systematically.

Bird cover like this was hard to find. Large fields of meadow predominated, overgrown with weeds and here and there small clumps of low shrubs. Irregular strips of sorghum and other tall grasses supplemented the natural woody hedgerows. Rides, narrow mowed strips, and food patches formed an irregular pattern. All of this seemed somewhat hit or miss and added to the tension as birds might be started most anywhere.

Within minutes, it seemed, one dog was making game and both hunters tensed. They appraised the situation and moved a little to the right toward the adjacent hedgerow. There, where the cover strip intersected the hedgerow, the dog froze to a staunch point, backed beautifully by his partner. Cautiously the men moved in; fingers trembling ever so slightly, tightened about each gun as two cock birds rocketed out squawking raucously, followed by a single hen. Two guns tracked two birds and both boomed out twice as a cock and hen fell. Neither had made his double and it added to their chagrin as they listened to the voice of the other cock bird, almost in mockery, as he set his powerful wings for a long glide into an adjacent field.

This first point sharpened the edge of both the hunters and their canine companions. It was time to settle down to some serious gunning. Settle down they did for the next two hours, experiencing that same elation when a bird fell; feeling a little flush of guilt that cut the pride when the cock bird that they had trouble in cornering, in some uncanny way, managed to dodge through the shot pattern.

Other hunters were in the vicinity and their shots could be heard frequently but not another man was seen during their sojourn. The area they had covered that morning had been theirs alone.

A delightful morning of hunting they agreed, as they finished up with enough birds for the big game dinner their wives had planned.

Where, in this day and age, can one find this kind of shooting? On the best of shooting preserves, of course. There a good stock of strong-flying sporty birds is always available. The cover is planned and maintained systematically, not only to provide good hunting conditions but also to reduce straying when the birds are released.

What does this type of shooting cost the operator; what does it cost the gunner? Right off, we can point out that it costs considerably more to produce pheasants than chickens. Moreover, strong-flying birds, bred for stocking for the gun cost more than those which are sold for meat. The establishment and

maintenance of good cover is expensive. Likewise the type of facilities that are available for the convenience of gunners such as clothes lockers and change rooms, etc., add to the cost. There are individual differences, of course, but simple arithmetic sets up a formula based on operation costs plus profit. Usually the shooting preserve manager knows what his product is worth and fixes

Good distribution of food and cover

his rates accordingly. Thus, to shoot on a well-managed preserve offering top quality birds, one would expect to pay a little more. On the other hand, if a place can be found that offers topnotch gunning at a minimal cost, one should take advantage of it as long as he can. Chances are the operator will either raise his rates or soon go broke and be out of business.

How did all this start? In the beginning—but there was no tangible beginning—it started as a confused and disorderly process of evolution. Early history of New York points up the fact there were two groups of hunters whose attitudes toward game were diametrically opposed One, the market hunter, was busy supplying the demands of hotels and commission houses. The other group, represented by sportsmen, was interested in conserving game for the sheer sport of hunting. Both liked the idea of long open seasons and unlimited bags as long as they could be perpetuated.

The sportsmen, however, could see the handwriting on the wall and joined forces at an early date. Some, who had the means, individually or collectively bought or leased large tracts of land, reserving to themselves the exclusive hunting rights. Here they propagated game, including deer and pheasants, and regulated the shooting. Trained game keepers were brought over from Europe to handle the artificial propagation of game and to manage the lands. Thus, there came into being the first shooting preserves in America, organized even before there was an apparent need for regulatory State laws and long before the State Game Commission was established.

These pioneers in conservation demonstrated that game populations could be maintained with proper management and controls. It was they who united with other sportsmen to form a powerful lobby, responsible for the enactment of the first game legislation to prevent the decimation of native species. On August 14, 1705 the first game law became effective in New York. This prohibited the killing of deer at any time other than between August 1 and January 1. In 1780 a statute provided for a closed season on heath hen and there was a closed season on ruffed grouse on Long Island in 1791. These were the first closed seasons on game birds in America. In 1892 the so-called posting law was passed to prohibit trespassing on those tracts of land where game was propagated and managed. These were designated as "private parks." It was from this beginning that the general posting of lands started.

Even up to 1895, game laws were confusing and there was no clear-cut definition covering the taking and disposition of game on private parks. Woodcock, grouse and quail were the important game birds. At that time the open season on wood cock and grouse was fixed between August 16 and December 31, while quail could be taken only during the months of November and December. Game could be possessed and sold, however, during the open season and for a month after the close of the season. Thus, market hunting continued to drain the game bird populations. It was not until 1903 that the sale of grouse and woodcock taken in New York State was prohibited. Despite that, the market in New York City flourished still, primed by birds transported from other states and imported from abroad.

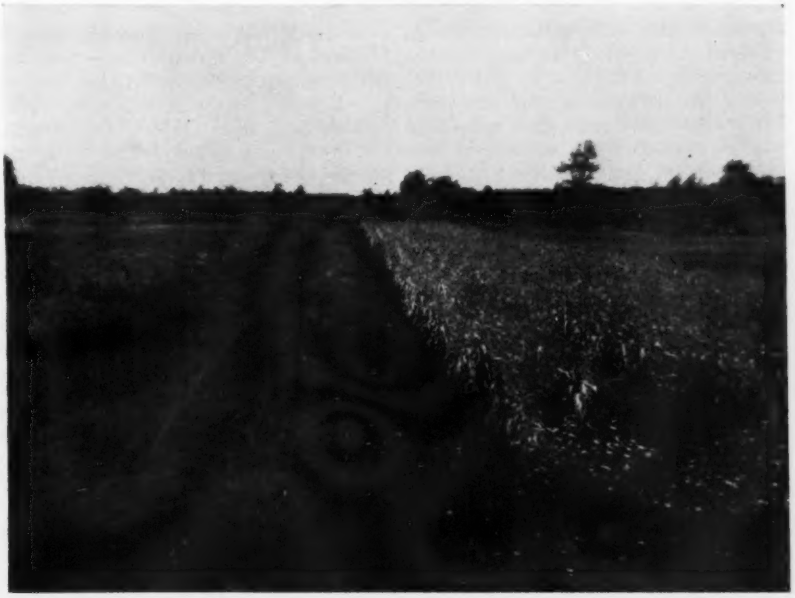
At about this same time, artificial propagation of game was given impetus. Here was a legal method of producing and selling to fill the demands of the city. Although the Fish and Game and Forestry Commission encouraged the artificial propagation and sale of such game, the laws were still ambiguous.

In 1908 the law was first enacted requiring a resident hunting license and the 115,809 licenses that year demanded tightened regulations to prohibit the traffic and sale of wild game. On the other hand, game breeders led by Dwight W. Huntington insisted that their rights should be protected and that all species of game artificially propagated should be freely bought and sold and killed at any time for food. This aroused the ire of the protectionists and other conservation groups who were rightfully concerned about the wild game that was still finding its way to market. They proposed that no game could be sold or imported for sale that resembled native species. This was too much for the commission merchants and hotel associates, and they joined forces with the game breeders. The heated debate that followed was indeed interesting. Permission has been granted to quote from the "History of the Committee on Conservation of Forest and Wildlife of the Campfire Club of America," compiled by Charles Banks Belt:

"In the New York Legislature of 1909, there was an active movement for amending the existing game breeders' bill by increasing the number of species of game to be affected.

"The movement in 1910 was led by Dwight Huntington, whose proposed bill was so actively opposed by the Committee that early in March, 1910, Assemblyman Lupton, Chairman of the Conservation Committee in the Assembly, asked our Committee to assist in drafting a new game breeders' bill, the pending one not being satisfactory either to the Assembly Committee or to Commissioner Whipple. Thus, in the very first year of its existence, the Committee became a factor in our State conservation legislation.

"Dr. William T. Hornaday, a member of the Committee, was largely responsible for the introduction of the Bayne Bill in 1911, to prohibit the sale of all game birds belonging to the same family as protected species found in the State, regardless whether they had been killed in this country or abroad.



There has to be birds here

"At the request of Dr. Hornaday, the Committee supported this bill and arranged for one of its representatives to spend two or three days a week at Albany until the passage of the bill was assured.

"Despite all the support given the bill by the New York Zoological Society, the Audubon Association, the Committee, the sportsmen's groups and many individuals, it made slow headway . . . . . .

"Later the Hotel Men's Association of New York had the Bayne Bill amended to permit the sale of European grouse, blackcock, plover, partridge, and various forms of deer imported from abroad. There was also tacked to it a rider providing that pheasants, mallards and black ducks raised on game farms could be sold. This was a portion of Dwight W. Huntington's game breeders' bill, first introduced in 1910, and pending in the New York Legislature for the second time in 1911. With the support of the game-dealers' lobby, the bill made rapid progress. The measure passed both houses with scarcely a dissenting vote and on June 26, 1911, the Bayne Bill became a law."

When paid shooting on private preserves was first suggested, many of the outdoor writers referred to it as "shooting chickens," dubbed it "ersatz hunting" and claimed "it is only for the rich." Time and experience has demonstrated that none of these claims is true. The private clubs, that had been operating in New York even prior to the time of regulatory laws, are still satisfied that their shooting preserves fill a definite need. Numerous sportsmen have organized clubs where land is leased at a nominal cost. Pheasants, ducks, quail, wild turkey, chukar partridge and couturnix are purchased or reared for release on these licensed areas. Shooting preserves open to the public for a fee are available to those sportsmen whose time is limited or who do not wish to be bothered with the details of operating their own shooting clubs.

Shooting preserve management is still an art but it has now progressed to the point where certain basic fundamentals can be applied to insure good hunting at a reasonable cost. For those who are interested, a shooting preserve manual compiled and in part written by Charlie Dickey is furnished at no cost by the Sportsmen's Service Bureau, 250 E. 43d Street, New York City. This agency has assisted many of the states in planning legislation covering shooting preserves during recent years and this type of paid preserve is now available in 38 states*. Research in this field is being conducted at Nilo Farms in Illinois by Olin Mathieson Chemical Corporation, and Remington Farms in Maryland is also studying the problem of perpetuating good hunting on typical farms.

As of today, shooting preserves have gone through their growing pains, have gained stature and are accepted by the State as a functional part of the program in providing a place to enjoy good hunting. The unlimited bag, extended gunning seasons and ability to hunt without worrying about trespass posters are most attractive inducements. The reaction to shooting preserves is almost always the same. One can hunt a number of times close to home and bag as many birds as in South Dakota and at less cost. But this does not deter one who likes to travel. Like the man in Alaska who read about a shooting preserve in Pennsylvania, promptly made a reservation and flew to that state for a day of pheasant hunting.

What of the future?

Where do we go from here? One might look back 178 years when the season was closed on the heath hen. If history is checked it will be found that at no time from that date to the present has the sportsman had a sufficient amount of game close at hand to supply his wants—despite all the assists that have been applied in the form of game management. As human populations increase with the attendant expansion of urban and industrial areas, game range must inevitably decrease. Moreover, as human populations increase, the number of hunters increases. More and more hunters invade the private lands of farmers in quest of the State's game— the game that belongs to all of the people. How long will the farmer tolerate this?

Now let's look ahead; not ten years, but 50, 100 or 150 years. How much land will be available then to support how many head of game? Will the point be reached when 10 million hunters are hunting one million pheasants that belong to the people of the State? And will we have open pheasant range adequate to support this kind of hunting? There is nothing in the crystal ball that will disclose the answers to these questions.

The precise means by which the shooting preserve system came into being is unimportant. The point is, they've been here, in one form or another, for some 200 years. They have stood the test of time and are stronger today than ever. Today though, not only the wealthy but anyone of moderate means can enjoy preserve shooting. Yes, anyone who can afford to buy a hunting license can afford at least one outing at a good shooting preserve. They are here to stay.

*A list of shooting preserves open to the public may be secured from the Sportsmen's Service Bureau, your sporting goods dealer or the Conservation Department.

The Shooting

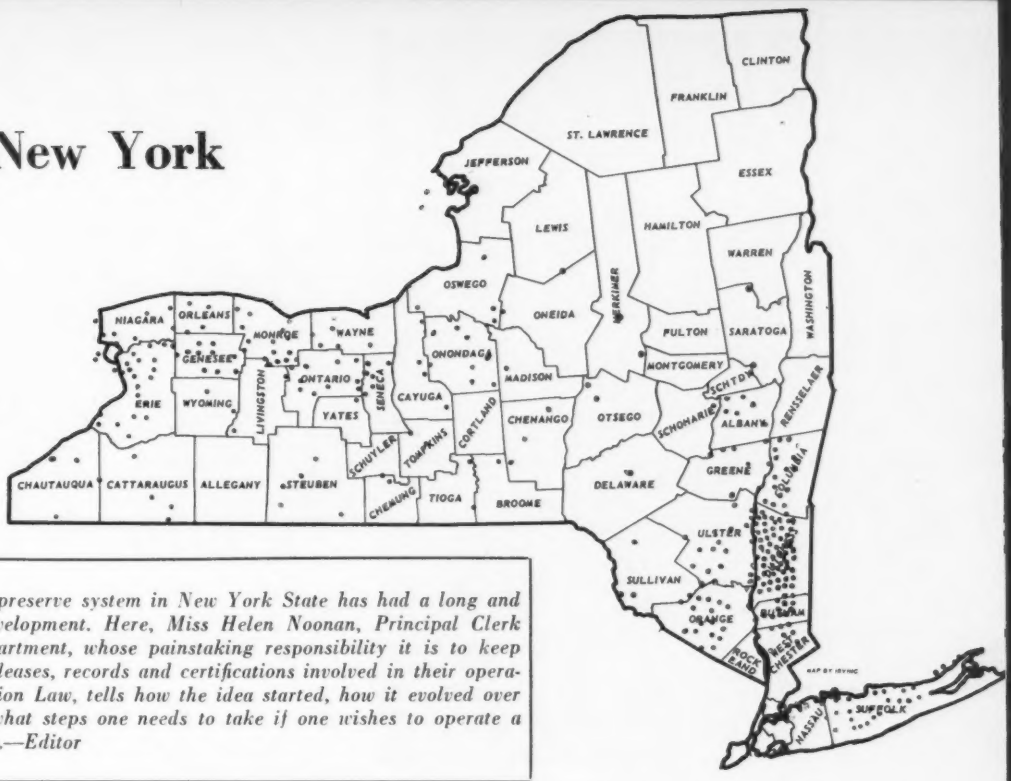
THE first glimmerings of shooting preserve operation in New York came to pass back in 1911. In that year the Conservation Law was amended to provide for a license under which pheasants, mallard ducks and black ducks could be raised, killed and sold for food. Such birds had to be killed in the presence of a Game Protector or Justice of the Peace who was required to tag each bird with a tag supplied by the Department. The game breeder was required, in addition, to pay these attendants $5 each time they were present at the killing of his birds. The fee paid for the privilege of operating under this license was $25. Then, the very next year, the Conservation Law was recodified and Section 372 set up authorizing issuance of a Game Breeder's License, broader in scope. Elk and deer could now be reared in captivity and killed for food. They could be killed by shooting, or otherwise, between the first day of October and the first day of March, inclusive. Pheasants could be released and shot on the licensed premises from October 1st to January 31st, inclusive. (Subsequently this period was changed to allow shooting from September 1st through the last day of February.) Mallard ducks and black ducks could be killed, other than by shooting, from the first day of October to the tenth day of January. The license fee was reduced to $5.

Some years later, an amendment of Section 372 authorized the shooting of certain migratory species during the regular open season. Until 1934, all game to be offered for sale for food was still required to be tagged by a Game Protector or person designated, but after that time the licensees could tag their birds.

In 1942, a new law was created (Section 375) governing shooting preserves. During that year, 205 of those persons formerly licensed as game breeders applied for the new type license which set up stricter regulatory controls, but allowed the operator to tag his own birds. Those game breeders not desiring to shoot on their premises; i.e., strictly game breeders, continued to operate under a Section 372 license, the fee for

Preserve in New York

by Helen Noonan



Distribution of shooting preserves in New York

The licensed shooting preserve system in New York State has had a long and interesting course of development. Here, Miss Helen Noonan, Principal Clerk in the Conservation Department, whose painstaking responsibility it is to keep track of all the licenses, leases, records and certifications involved in their operation under the Conservation Law, tells how the idea started, how it evolved over the course of time and what steps one needs to take if one wishes to operate a private shooting preserve.—Editor

which was reduced to $2.50.

The number of shooting preserves decreased during the war years until during 1945-46 only 162 licenses were issued. Following the war, a gradual upward trend began and last year 335 preserves were licensed. Most of these preserves are located in the lower Hudson Valley, with the Long Island and Lake Plains sections being the next most popular areas. The sizes of the shooting preserves range from a few of approximately 30-50 acres to one comprised of over 4,000 acres and several from 1,500 to 2,000 acres. The majority consist of from 150-300 acres.

Individuals and clubs operate the preserves and last year 46 areas were opened to the public for a fee. During 1957, the following species of domestic game were reported released and shot on shooting preserve areas: Pheasants, 109,800 released, 72,466 shot; mallard ducks, 30,212 released, 27,762 shot; quail, 2,783 released, 1,306 shot; chukar partridge, 1,301 released, 967 shot; wild turkeys, 62 released, 41 shot. It will be noted that only about 60 per cent of all domestic game liberated on licensed preserves is taken by shooting on these areas. Some of the balance drifts onto adjacent lands where it is warmly received by other hunters.

The law governing the licensing of shooting preserves provides licensees must own lands—or hold leases granting them *exclusive* hunting rights on lands—comprising their preserves. Moreover, on lands under license for the first time, or on which the license was not renewed for a period of one year or more, the operator, if he wishes to release and shoot pheasants, must make an initial liberation of pheasants equal to one bird for each ten acres of the premises to be licensed. No shooting credit is granted for these initial releases.

All shooting on licensed preserves is done in accordance with written authorization issued by this Department after the operator has furnished information concerning the numbers, ages and sources of domestic game he plans to liberate. If such domestic game is not propagated on the licensee's premises but is acquired from another licensed game breeder, proof of purchase must be submitted.

The ringneck pheasant is by far the most popular species of game handled by shooting preserve operators. But that, by no means, exhausts the scope of operations under the Conservation Law. Additional species of domestic game that may be handled are elk, whitetail deer, mallard ducks, black ducks, geese, quail, wild turkey, ruffed grouse, chukar partridge and Hungarian or European gray-legged partridge.

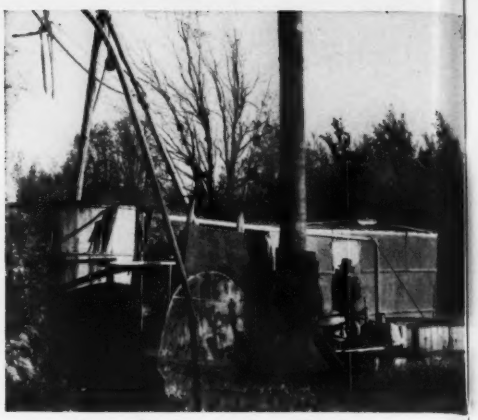
Domestic migratory waterfowl liberated on licensed areas, can be taken only in accordance with the migratory game bird regulations adopted by the Department. The only exception is that upon written application from the preserve operator, the Department may authorize the taking of domestic migratory waterfowl in numbers not to exceed those liberated, in controlled drives, (in flights) between September 1st and the last day of February. In these cases, the Department has to be satisfied that the shooting is to be done in such a manner as to preclude the taking of any wild waterfowl. Each domestic duck and goose for liberation on a shooting preserve, before attaining the age of eight weeks, must be marked by the removal of a V-shaped portion of the web of one foot. This must be large enough to make a permanent well-defined mark.

Each bird shot must be tagged with a tag supplied by this Department and purchased by the operator at a cost of 5¢ each. Operators are required to make reports of their operations from time to time during the year.

The fee for a shooting preserve license is computed on the basis of $10 for the first 200 acres and $1 additional for each one hundred acres or part thereof comprising the premises described in the application for a license. *(Ed. note: This sounds very reasonable—and is! But don't be mislead; as with the purchase of a boat—it's not the capital investment that's so steep; it's the upkeep.)*

A regular hunting license is not required when shooting domestic game on a licensed shooting preserve since the owner of the preserve has stocked the area with domestically propagated game and no State-owned birds are released on these lands.

Cutting white cedars—first step toward cedar oil



James Rockwood plant, Winthrop

Cedar Oil

Stills are Operating

A family affair; mother and son lop branches from felled cedars

NEW YORK and Kentucky have at least one thing in common—both states support stills back in the hills. In some cases, we suspect that these stills, whether located in New York or down South, are not turning out the very same product. But the ones we're interested in (at the moment) represent a perfectly legitimate although little known forest product industry—cedar oil distillation. Oddly enough, this business of extracting the highly aromatic oil from native white cedar seems to be confined to the States of New York and Vermont. Why, we don't know, for white cedar *(Arbor vitae)* thrives in many other sections of the country.

Certainly, the distillation of cedar oil is a fringe operation in the forest industry picture, except, of course, to the few who are engaged in the business and to the consumers of the product throughout the country. They buy it as an important ingredient of certain insecticides, furniture and floor polishes, waxes, soaps and drugs.

Basically, the business is a one man or a family circle operation. What's needed mostly is a good stand of white cedar, a strong back, a quantity of old pipe, a beat up boiler, a good source of cold spring water, a few tools, a lot of energy and a liberal stock of Yankee ingenuity. Mix all these together and you're in business with some of the weirdest equipment ever conceived and developed by the human mind and hand *(see accompanying pictures)*.

Once you're set up, here's how the job is done: The young white cedar trees are cut flush with the ground and the branches are lopped off and loaded on a wagon or truck bed, pretty much like a

Lawrence Gadway plant, Mooers Forks

(Left) Coyer-Carron plant, Cadyville

Legally Here in New York—but the Product is Oil

by Nick Drahos

load of hay. These are taken to the distillery *(see photos)* and are packed into large vats, sometimes as big as six feet in diameter. The size of the vat depends on a man's ambition and the size of his boiler. The larger the vat, the bigger the boiler must be. The largest vat we've seen held about four tons of cedar boughs.

Once loaded, the vat is sealed airtight and a fire is built in the boiler to get up steam. Steam from the boiler enters the bottom of the vat and as it percolates its way upward through the boughs to the top, its heat ruptures the plant cells, releasing the very volatile cedar oil which unites with the steam droplets. Continous steam pressure at the bottom drives the oil-saturated steam at the top through a pipe leading to an underwater set of cooling coils. When the steam strikes the cold inner surfaces of underwater pipe, it condenses and separates into water and cedar oil. The oil and water are then drawn off into containers and permitted to settle, forming separate layers, with the water at the bottom. The clean pure cedar oil distillate which rises to form a top layer is then drawn off in containers and sold. Through middlemen, the product reaches cedar oil brokers in New York City and, ultimately, manufacturing companies.

A vat containing three tons of cedar boughs will yield from 27 to 45 pounds of cedar oil, depending on the time of the year the boughs are collected. The market price at present is about $1.65 a pound. This is very low and most distilleries as a consequence are shut down. Normally the price is about $3 a pound. At this rate, a man can make himself a nice piece of change, if he does the work himself. Of course, if he has to hire a crew to cut his boughs, his profits go downhill fast.

Stills can be operated in all seasons of the year with the exception of below freezing weather. This might be possible too if one could keep the water in the boiler and pipe lines from freezing. The best time of the year (highest production time) is during the latter part of August and early September. Evergreens become dormant at this time and are chock full of all the nutrients they need to carry them through the six-month long Winter.

Distilling plants are relatively simple in design and on an investment of $200 to $300, an ambitious farmer in good white cedar country can get a nice return on his money during slack periods of time.

Once the boughs are processed, they can be burned and converted into a balanced fertilizer ash. The farmer in this case gets a product which he can sell, a fertilizer for his land, plus a piece of land cleared of white cedar which might be used for additional pasture or crops. He might even get some fence posts.

No matter how you look at it, you can get a lot of benefits including money in the bank. Seems to me, this would be a good 4-H project in white cedar country. However, before you hurry out to begin bolting together your still, we suggest that you visit one of the "plants" illustrated here. You will learn some of the practical aspects of cedar oil distillation and plant design problems first hand.

And don't set up in a red cedar stand —you'll go broke.

Typical condensing system; pipes in spring pool

Wayne Deno plant, West Chazy

The youth of this country is our finest —our most valuable natural resource. In this article, the author describes another way of developing its great potential.—Editor

Small Town Junior Rifle Club

by Dr. Henry M. Stebbins

AN important challenge to free hunting is, quite simply, the careless shooting that so often brings tragedy. It may be the wounding or killing of humans or livestock. There's also the crippling and loss of game, economically serious, tragic in the suffering it causes. In the contemplation, a thoughtful person finds no lack of nightmare horror.

Junior Hunter Training is a mighty preventive, long-proved in our State, mandatory and easily available. Yet junior marksmanship training is optional, and available to few. We row with one oar.

Properly taught marksmanship brings respect for any gun's potential danger. It also reveals a shooter's limitations. So the paper target's high-scoring rings are small? So are vital spots on game!

Some Junior Hunter Instructors give a follow-up in marksmanship, and for this they deserve additional praise. As our advance guard of conservation and safe shooting they and the others should have a backing force of rifle-club instructors.

Organized junior rifle shooting is a proved good force, though still a mere spooning of the surface. We have some 3,000 such clubs in our country, with room and need for at least ten times that number.

These clubs "help keep kids out of trouble." That's negative, in a way. Positively, they help lead youngsters to fully-lived, happy maturity by teaching mutual tolerance, sportsmanship's self-restraint, and persistence. By-products are physical and mental co-ordination and a few simple mechanical skills; gateway to the more complex.

There's no trouble in arousing kids' interest in rifles; 1957's Boy Scout Jamboree proved that. The sport gives a "charge" and it doesn't penalize the undersized, the weak or the slow. The difficulty is to find instructors. Today's kids get practically everything except what they want most—adults' time.

The tentative instructor, who definitely need not possess much personal skill in marksmanship, hesitating over the high dive into participation, may be plagued with doubts: How much work, how make a start, how make it tick, what's in it for me?

Let's go to the last and most human question first.

What's In It For Me?

We get what we give, in life, and sometimes we get more. Kids are fun, not savage; not even a race apart! They're direct, frank, humorous—and loyal to their friends. All they want is guidance and sharing, not service. They provide a new, absorbing world, an antidote to the stale old daily stresses of modern life. As rifle instructor you earn and get gratitude from them, from some of their parents, and from the community. There's no Silver Beaver but there is the sense of manning your front-line civic post. Often you are secretly amused at the thanks; you're having such a swell time! Their progress means more and more to you. Most of our Junior Hunter Instructors have wished for longer contact with at least some of their students. In a club you get it.

How Much Work?

It comes to possibly three hours a week, two or so at the range, the rest spotty; records and reports if your club joins the NRA*. Most clubs do. Through it they get official recognition, the ranking insignia that mean so much to even the older kids, the help in how-to, and usually loaned or issued materiel from the Army's Director of Civilian Marksmanship, "the DCM."

But in fairness to the kids you should encourage them to do at least 90 per cent of the paper work and, as soon as they have been taught, a similar amount of the coaching. You do have to stick with it, meet every weekly date and supervise every shot fired. Though at first your typical grass roots club is powered by your lone hand, time brings substitutes, assistants, or even fully-sharing partners. The kids handle almost all discipline problems; few indeed because they want to learn and they develop pride in their club.

How To Get Started?

Your newspaper wants news. Sell the editor on gun safety first, your own primary concern, then on the positive, progressive marksmanship training that you, presumably with NRA help, will give. Promise him prompt reports and come through with them. He can be the best local help your club can get.

You may find a sponsor: Church, school, police department, senior shooting club, service club, local industry or —with luck—a nearby military installation. But kids, even today, feel pride in *not* being subsidized. (You do have to teach them that!)

A range can be short, 15 feet for smoothbore airguns, 25 feet for rifled air or CO_2 gas guns. A 50-foot indoor range for .22 rimfire rifles may come hard, but Winter shooting really pulls attendance, and respect for the power of .22's is easy to demonstrate. And through that, respect for all guns.

With no other help but space, heat and lighting a club with an indoor range is sure of success if you do your part, which, as you look back on it later, is really small. The place may be a church, school, club, store or warehouse basement, and if you have combat veterans or a sportsmen's club on your side you needn't do the shopping alone. Sometimes enough public good will can be cultivated during a Summer on an outdoor range—farmers have been wonderfully co-operative when told of the safety precautions—to secure an indoor range when the cold closes down.

* National Rifle Association of America, 1600 Rhode Island Avenue, N. W., Washington 6, D. C.

Unless the range is rented, costs will be low. NRA affiliation takes $5 a year, and 50-cent annual membership dues will meet that. Keep the game inexpensive for there are heavy demands on a kid's spending money, as well as on his free time. Ammunition usually comes at discount, if local dealers are mindful of next-generation patrons and kids willingly tax themselves a few pennies a box to build a club treasury. Or you may have nickel or dime range fees each night. Let the kids handle all that.

Discarded mattresses serve as shooting mats and steel plate and wood for backstop and target frames can come from junk or scrap. From DCM comes the loan of target rifles that boost scores, and sometimes a grant of ammo and targets. The club pays express charges, and bonding and insurance for the rifles costs about $10 a year. They are something to work for, but not, may I say, by begging or peddling. Somehow the money piles up and in time a club buys its own bullet-hole spotting scope (about $30 list) and maybe a specially short-stocked .22 for small shooters. Members learn that new blood vitalizes their club.

How Make It Tick?

They all want success and recognition, so never be stingy with praise to each as he or she climbs every step of the ladder. The NRA program starts with prone shooting and goes to standing offhand, in long and, at first, easy stages. There are badges for each rating. Intra-club matches can come early; later the outside competitions. Adult "teams" of obliging local hunters, not target shots, ease the kids toward the self-control (so obviously characteristic of the safe hunter) that competitive shooting demands.

A club should contribute to its community, obviously and fairly often. Its theme is gun safety, with marksmanship secondary though perhaps more popular in appeal. Window displays, brief school demonstrations, parents' nights, open house evenings, representation in parades—all these help. And they should not (for a blessed relief!) solicit financial aid. Planning and execution develop the kids' originality and sense of responsibility. Often you are amazed at the show they put on. Medals, for which they've duly paid their club treasurer, have an extra glow when given out at a public meeting.

There is one worry you can throw through the window, drop-outs. Some kids are samplers, and naturally, for the world is big and new to them. But never deny membership to one who you know too well is no stayer. They all learn some gun safety and those who stick are your friends for life.

Часть карты для прогулок по штату Нью-Йорк.

водящиеся в водах штата, приводятся законы о рыбной ловле. В тексте сообщается, где можно получить лицензию на рыбную ловлю. По законам штата ловить рыбу без лицензии имеют право только женщины и дети до 15 лет.

Журнал «Conservationist», выходящий в штате Нью-Йорк, часто помещает схематические карты отдельных округов штата как иллюстрации и как приложения.

Рыбоводство

№ 1 1958

Наши любители рыбо спорта давно ждут подобны Главному управлению геод картографии, а также и зациям, имеющим отноше спортивному рыболовству, вало бы позаботиться о м издании карт, отражающих тивное рыболовство как п стране, так и в отдельных ликах, краях, областях, а о создании карт крупных мов.

Around the World by Fishing Map

ONE particularly hot and steamy day this Summer, the mailman dropped off something new, colorful and cool—a new magazine. Two things attracted our attention, immediately. Here, while we were mopping our brow, were some foreign-looking fellows, all bundled up to keep warm, fishing through the ice for—and catching—our old friend, the yellow perch. Next of interest was the unpronounceable and incomprehensible (to us) name of this publication; (turned out to be Russian for *Fishing and Fish Propagation*).

So we flipped the pages, enjoying the pictures and wishing that we could read Russian, when suddenly, there was something we could read: "Rainbow Trout, 21 lbs., Keuka Lake, Earl G. Crane, 1946." (That, by the way, is a New York State record that still stands.) And sure enough, we were looking at a reproduced section of Clayt Seagears' "Outdoors Map of New York" which appeared several years ago (June-July, 1948) in THE CONSERVATIONIST.

That was all the bait we needed, we had to find out what the author of the accompanying article was saying. Thanks to our staff artist—Wayne Trimm, who found an accommodating expatriate Russian to translate, here's what we learned: The article is concerned with "Maps for the Sport of Fishing in the U.S.A." The author, Y. Saldatken (despite the way it looks on the page reproduced above) points out that there have been several excellent maps published in the U.S.A. that aid the fisherman, and sometimes the hunter and camper, in locating good spots for his recreation. One example cited, as noted above, is the New York State Outdoors Map. The author is impressed with the fact that the map deals only with information of direct interest to the hunter, fisherman and outdoor recreationist He seemed surprised, but favorably so, by the cartoons that give the map a "light touch" and the idea of including identifiable drawings and catch data of record fishes of the State.

The article refers to an Arkansas map called "Good Fishing—Good Hunting," followed by a discussion of the Rhode Island and Maine highway maps which include information for the fisherman, such as good spots for fishing, laws, etc.

Apparently THE NEW YORK CONSERVATIONIST is read by the Russian fishermen too since the article next mentions the hydrographic maps of lakes that appear in most issues and comments on how useful they are.

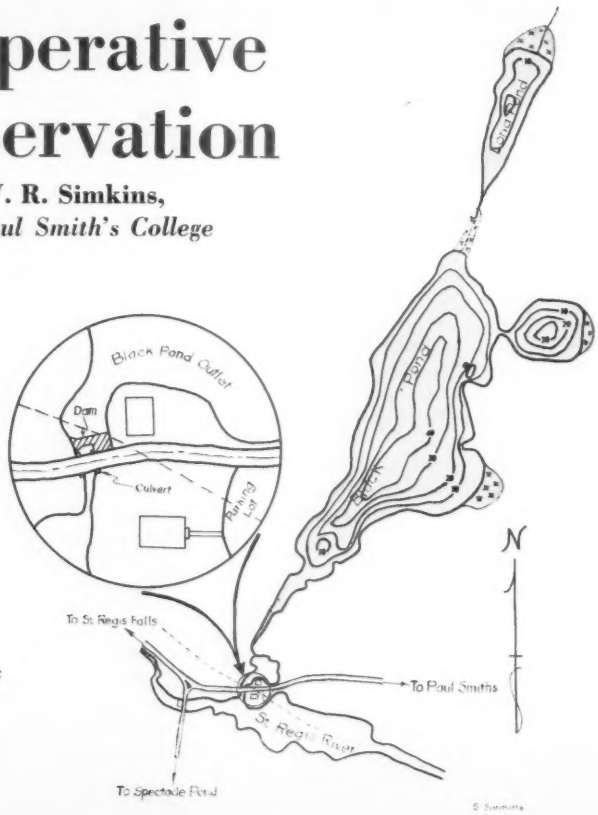
The article concludes on a note of regret that the Soviet Union is behind times in getting similar information to their fishermen. It suggests that they should follow the examples set in the U.S.A.

Editor's note: Translation of a letter accompanying the magazine disclosed that we are indebted to A. M. Bochever, Assistant Director, Central Scientific Library of Agronomy, Moscow, U.S.S.R. for this first issue of their new publication.

Paul Smith's students skidding a hemlock log into St. Regis River

Co-operative Conservation

by Stephen V. R. Simkins,
Instructor, Paul Smith's College



Black Pond—showing detail of dam site area

Locating the first section of the log crib

SEVERAL thousand trout were stocked last Spring in two formerly unproductive ponds that have been reclaimed for game fish production. The waters that got this treatment are Black Pond and Long Pond, parts of a chain of waters that empty into the middle branch of the St. Regis River near Keeses Mills. Both ponds are completely surrounded by Paul Smith's College property and are geographically located in the Town of Brighton, Franklin County. This initial stocking of several thousand brook trout had successfully completed a co-operative conservation and educational project initiated jointly by the Paul Smith's Fish and Game Club and Paul Smith's College.

Both ponds had been surveyed by the New York State Conservation Department in 1954 at the request of the Fish and Game Club. The survey clearly indicated that reclamation of these waters would provide a much improved game fish harvest. Acting on this information, the club members voted to present the project to the College and the other organizations concerned.

The Forestry Department of the College was interested and willing to cooperate because the project would provide an excellent means of informing the students about the important concept of multiple land use. The College President and Board of Trustees also indicated their approval by signing a legal document declaring that access routes to the ponds would not be posted for at least ten years. Although no College property has ever been posted, this document was necessary at this time to permit the Conservation Department to operate on private lands. Futhermore, the College administration was cognizant of the fact that improved recreational facilities would be provided for the hotel guests and the general public.

Forestry students, enrolled in a required Summer course entitled, "Recreation and Wildlife Management," were assigned as a field project the task of constructing a large log crib barrier dam across the outlet of the lower pond. The location of this dam was a difficult problem since the outlet was less than 200 yards in length and the difference in elevation between the pond and the St. Regis River was only 11 inches. The best possible dam site under these conditions was one that would infringe upon property controlled by the St. Regis Presbyterian Church and the Town of Brighton. The Town officials decided they would rather not have the dam located within their road right-of-way

which necessitated moving the proposed location upstream above their property. The Elders and Trustees of the church, on the other hand, graciously agreed to the proposed location although, even at the time, there was some question as to what adverse effects the dam might have on their immediately adjacent club house.

Under the direction of the Forestry Department faculty with technical advice provided by the Conservation Department's stream improvement personnel, the cribwork, which required over 40 tree-length hemlock logs, was completed in five and a half days. This not only set a construction speed record, but the work was accomplished without accident—a fact that should also establish a record because there were as many as 30 students at a time working with everything from axes and malls to peavies and chainsaws.

During crib construction, one crew felled, debarked and jockeyed the trees into the St. Regis River, while a second crew towed them with outboards about a mile down the river to the dam site. At the dam site, the logs were cut, notched, trimmed and assembled into the crib by a third crew. A fourth group of students simultaneously removed all beaver dams from the pond outlets in order to confine the beaver ponds and flows to the original stream banks and thus facilitate reclamation.

The completed crib was filled with gravel after 2,100 linear feet of 2″ x 6″ facing boards had been driven into the mud and nailed in place on the upstream side. Three trucks donated respectively by the neighboring Town of St. Armand, the College and a member of the Fish and Game Club hauled the gravel from a nearby College gravel pit. A total of 20 truck loads was required to complete the fill.

Two unexpected problems were presented as the water began to rise behind the newly completed dam. First, because of the low land lying along one side of the outlet, water began to overflow its bank and meander around the dam. The solution to this problem was the construction by both students and Fish and Game Club members of a dike measuring over 100 feet in length. A second surprising difficulty arose when the Presbyterian minister suddenly informed the dam construction crew that: "A large stream of water is gushing out of the hillside about a quarter of a mile down the road." A rapid and concerted search, accompanied by many sad faces and a gloomy atmosphere, finally revealed an old wooden handmade water pipe which, apparently still intact, was carrying water from behind the dam underneath an adjacent hill and discharging its contents across the highway some distance below the dam. This flow was soon stopped by a large wooden plug placed in the open end of the pipe at the dam. It was subsequently ascertained that the wooden pipeline originally provided water for the residents of nearby Otisville and had been installed on top of the ice by an enterprising townsman.

The dam was watched carefully for several weeks to insure that no damage to property or individuals would result. Then, on September 24-26, biologists from the Conservation Department's Adirondack Fisheries District, with assistance from the forestry students, reclaimed the 120 surface acres of water above the dam. Approximately 20 lake and brook trout and an equal number of whitefish were collected during and immediately following the application of rotenone. These figures probably provide a relative indication of the game fish population since 10 to 12 boats were constantly searching for dead and dying fish. The low population of game fish was corroborated by the results of the original Department survey. The greatest poundage of fish was comprised of stunted yellow perch, common suckers, sturgeon suckers and various species of minnows.

It seems to us that there are two highly significant aspects associated with this project. First, the key to its successful completion was co-operation. No one group of individuals could have accomplished the desired end without full co-operation from the other agencies involved. Undoubtedly there are many similar conservation projects throughout the State that could be initiated by local fish and game organizations and be carried to a rewarding completion through co-operation of interested groups and individuals. Certainly co-operation is essential to progressive conservation programs.

Secondly, this project was somewhat unique because of its dual purpose. Not only did it satisfy the objective of the Fish and Game Club and the Conservation Department to improve area fishing but it also satisfied the primary objective of the College to provide the students with experience in phases of land use other than timber production. Both formal and informal discussions occurred in conjunction with the dam construction which gave the students an insight into the advantageous use of log crib structures in, and the fundamentals of, land use programs designed to integrate recreation, fish and game management, watershed management and timber production.

We, at the College, feel the greatest returns from this project will be realized through the students who are destined to be our future land managers.

Work progresses on the cribbing

The dam at completion

Power-spraying of rotenone

Plus hand-spraying along shore

Catskill Bowling Pins

by LeRoy Irving

JUST for the record, and so that we do not begin this story under any false impression, the mere fact that this writer was selected to do the job is no indication of his ability as a kegler*. Nothing could be farther from the truth. Nor is it our intent to cover the entire sport of bowling, but only the part played by that rugged individual, the bowling pin. As an introduction, however, a bit of history might be in order.

To begin at the beginning, the sport of bowling dates back to ancient Germany where it originally was part of a religious ceremony. From there it spread to other parts of Europe, and the game, known as ninepins, was introduced to America by the Dutch in the early 17th Century. Somewhere around the middle of the 19th Century, because of gambling abuses and sellout scandals, especially in the Northeastern States, some legislatures outlawed the game of ninepins. Legend—and the sport of bowling is steeped with legend—then has it that an enterprising gentleman suggested that an extra pin be added, thereby changing the game from the illegal ninepins to a legal tenpins. Legend or not, a tenth pin was added and the game, as we know it today, is played with ten pins.

On September 9, 1895 the American Bowling Congress was organized for the purpose of governing and promoting the sport. It's hard to see how they could have been more successful. At last count, there were 85,000 bowling centers in the United States besieged by some 22 million bowlers, men, women and children.

Referring again to legend, it was Washington Irving in his story of Rip Van Winkle who still delights us with Rip's version of the game of bowling—ninepins at the time—and he chose the Catskill (then Kaatskill) Mountains as the setting for his tale. Add to this the opinion of most Catskill inhabitants engaged in the timber growing and using industry that Catskill hard maple, because of its straight, clear grain, strength and ease in turning, is unsurpassed in its field, and you will understand why we were influenced to follow Washington Irving's lead and turn to the Rip Van Winkle country as the setting for this story about bowling pins.

Our trail to the bowling pin led us straight to the plant operated by Burr Sherwood at Livingston Manor, on the banks of the Willowemoc in Sullivan County. In addition to its Catskill setting we were further influenced to select Sherwood's Mill—as it is known to local residents—because it is one of the few bowling pin plants in the country that performs the complete operation. Moreover, this family-operated business has been carried on continuously for the last 85 years at the same old stand, and may well be the oldest of its kind. Established by Burr's father, John F. Sherwood, in 1873, the original mill was powered by water and featured an up-and-down sawmill. Somewhat later this system was replaced by a circular saw and turning mill powered by three turbine water wheels. Early products of the Sherwood mill included such items as paper rollers and baseball bats. In fact, the mill supplied hand turned baseball bats to Spaulding for eight years.

Now powered with electricity and steam, the steam being made by boilers fired with mill waste (sawdust mixed with the 15 tons of chips produced per day) the plant presently employs about 50 people and can produce 2,000 ABC regulation tenpins or 2,500 candle- or duckpins per day. For the last 36 years, following rigid specifications, Sherwood has supplied the Brunswick-Balke-Collender Company of Chicago, Ill., exclusively with his entire production of tenpins, candle- and duckpins. Maple timber, raw material for the pins, comes from within a radius of 50 miles. The current average consumption of hard maple amounts to a staggering 1½ million board feet per year. Throughout the years then, this wood-using industry depending upon local timber resources, has been an economic mainstay of the community. So, here it was that we watched the complete process of converting a hard maple log into finished bowling pins, ready to match their ruggedness and perfection against the skill and strength of the nation's keglers.

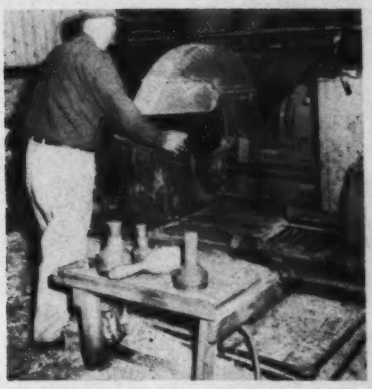
Here's how a bowling pin is made in the Catskills—22 operations, more or less—from the maple log to the finished product. Most logs arrive at the mill, muddy and dirty from logging, so the first treatment they're given is a bath. Each log is washed down with a hose, using hot water in the Winter. Once clean, the log is introduced to the first sawing process—an hydraulically controlled slasher saw about seven feet in diameter. This cuts the log in approximate lengths, going through the hard maple like a hot knife through butter.

The next man on the production line sizes these lengths for tenpins or candlepins and puts them through the bolter saw. From there, via conveyor, the bolts arrive at a cornering saw which as the name suggests, removes the corners. These corners, first waste material of the process, are salvaged and sold as firewood. The "cornered" bolts then proceed to a swing saw which cuts them to 18" lengths. Thence they go to the rougher which gives the bolt its first shaping. It now resembles a bowling pin for the first time and is called a "block."

Now comes, according to Mr. Sherwood, the most important step in the whole process and it takes from 50 to 60 days to do it properly: The blocks are conveyed to the drying building where they are dipped in wax on the ends and partly rosined on the sides to prevent splitting. Loaded on cars, the blocks then spend their allotted time in huge kilns until they meet the proper drying specifications. Needless to say, everything doesn't stop for this length of time. Hundreds of thousands of blocks are in the kilns in progressive stages of drying. Upon completion these are periodically fed back to the next machine on the production line—a double cut-off saw which cuts each block to an exact 16½"

*Kegler: It was the practice of early day Germans to carry a club or pin like an Indian club, called a "kegel." This was an all-purpose implement in German hands and anyone who used it for any purpose was a "kegler." Today it is the popular term by which all bowlers are known.

Catskill hard maple is tops in making bowling pins

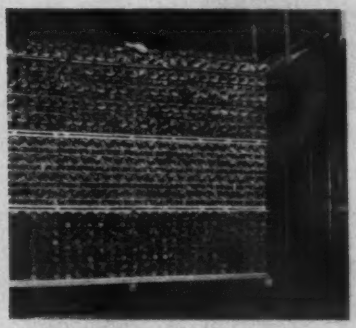


Maple blocks are cut into pin-sized bolts

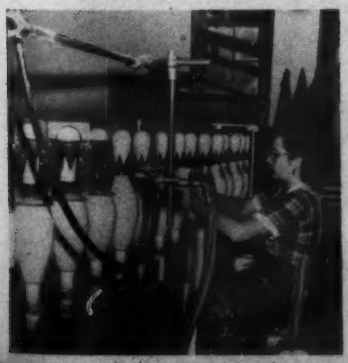
The rougher—the bowling pin begins to take shape

Rosin is applied before drying to prevent splitting

A car of pins in the drying kiln



Decals are applied to finished pins



Weighing and packing for shipment

length. These go to the sizing machine and back knife which give the pin its final exact size and shape.

And now the finishing processes—first through the sanding machine, with four grades of sandpaper. Following sanding, the pins are inspected and separated, in the case of Brunswick, into four grades: *Kings* which are first quality, then *Regal Queens* followed by *Dukes* and finally the *Economies*. After grading, a top and bottom machine removes irregularities which, in the trade, are called "stub shots." This machine also bores the hole in the bottom of the pin and makes the groove in the bottom in which a plastic ring is later pressed. Following boring and grooving, a gluing machine applies one coat of glue to the groove which is allowed to dry for ten minutes. Another coat of glue is applied and the plastic ring is pressed into place.

Next, a top sander puts the finishing touches to the tops of the pins and now, on a moving line like wooden soldiers, turning on spindles as they go, they parade through the first spray booth where spray guns apply two coats of penetrating primer. Out of sight through a heated tunnel to speed drying they go, emerging to receive their first and only application of white lacquer in a second spray machine. On down the line they continue, to be fitted with a special "mask," get sprayed with a red lacquer and emerge with the familiar Brunswick "Red Crown" trade mark. Immediately the decals are applied and the whole pin then gets two more sprayed applications of a clear lacquer to complete the process.

Finally the pins are match-weighed and packed ten (one matched set) to a carton for shipment. Here again tolerances are strict, for bowlers can be exacting people, and weight ranges can vary only from 2 pounds and 14 ounces to 3 pounds and 10 ounces per pin to be accepted. In addition, each pin in a matched set of ten must weigh within an ounce of each other.

So, the next time you miss that spare or wind up with the 7-10 split, don't blame the pins—the chances are that they were made with a lot more perfection than your delivery.

New Chestnuts for Americans

The chestnuts are well protected by prickly burs

The American chestnut in flower

by Leonora D. Price

FIFTY years ago the deadly chestnut blight made its never-to-be-forgotten debut in this country. Carrying greater potential for destruction than a forest fire, it soon made a clean sweep of our central hardwood forests and virtually eliminated the beloved American chestunt through its Appalachian range. Counter measures failed. Stark forest skeletons still stand as monuments to the grim thoroughness of the killer. Even experts agreed that the chestnut was gone from the American scene for good. Today modern science provides us with new hope—the chestnut may be re-established in our eastern forests within the next generation.

This forest tragedy had its beginnings early in the 1900's. A traveller to northern China admired species growing there and shipped several varieties to the United States. The bark fungus responsible for the blight slipped in undetected past the lax plant quarantine and inspection laws of the time. The death warrant was signed for the chestnut. Birds, wind and insects carried the sticky fungus spores from stand to stand. Leaves withered and limbs were left bare from northern New England westward through the Alleghenies and south to the mid-Atlantic states.

The loss of the chestnut was borne not alone by those reared in the American tradition of hunting the prized nuts in the Fall; the American economy suffered as well. Tens of millions of dollars worth of valuable timber was destroyed.

The chestnut grew straight and tall. Its wood was porous and coarse-grained, yet durable and exceptionally resistant to decay. In 1941, 90 million board feet of chestnut lumber were cut *from dead standing timber*. American chestnut was used extensively for coffins and caskets, interior trim and furniture. It was in demand, too, for the manufacture of musical instruments. Craftsmen were aware of the manner in which the use of chestnut with oak formed a preservative to the oak as early as the 16th Century.

The nuts were a valuable wildlife food, especially sought after by the wild turkey.

Tannin from the bark was used in the preparation of heavy leather and constituted one half of the tanning extract used in this country. Bark from dead trees alone was an important source of tannin until recent years.

Our native species doomed, scientists set out to find a replacement. The European chestnut is not hardy here and is suffering from a blight raging abroad. Over 15 per cent of the forest land in Italy has been affected and total destruction of the European chestnut is predicted throughout that country and in southern Switzerland. The chestnut assumes even greater importance in these countries. Its wood is used in the manufacture of wine barrels and for baskets. The nuts are larger and are used for hog food or ground as flour for human consumption. Fifteen to 20 million pounds are exported each year. These are the nuts sold in local markets today. Eighty per cent of the income of some villages depends on the chestnut crop. No other crop could bring equal returns from the same mountainous land.

For many years researchers have been working to combine the best qualities of the American and Oriental chestnut varieties. They are looking for trees with a straight trunk, large flavorful nuts, early maturation, rapid growth and, of course, hardiness and blight resistance.

Suckers sent up from old stumps may reach a height of twenty feet and may bear flowers and fruit for one or two seasons before they, too, succumb to the inevitable blight. This makes it possible to cross our native tree with blight-resistant Chinese and Japanese species. Often, in such a cross, the blight-susceptible American parent transmits this dominant character to the hybird. However, some resistant offspring have been produced.

A Chinese-American hybird produces burs when only 18 feet tall. It resembles the American chestnut in growth, form, and leaf. It may be attacked by the disease, but usually recovers with no main trunk injury.

New varieties have been obtained from interbreeding the Chinese and American chestnuts and the bush-like chinquapin, a related American species with a similar range. The nuts produced are larger and less grainy. Yields greater than 100 pounds per tree, or a ton per acre, have been recorded. Hybrid varieties do well in cultivation and their planting in small woodlots is being encouraged as a first step toward reforestation. Grafts are available through larger nurseries. The nut-thieving squirrel is the greatest menace to these trees. The few insect pests are readily controlled by light spraying. Seeds from these resistant types are being sent to blight-stricken Europe.

Public interest in the search for new chestnuts is great. Many have been cooperating by sending nuts from native trees and shrubs which have passed the critical 6 to 7-year bur stage to the Department of Agriculture in the hope that a natural blight-resistant mutant may be found. A woman in Pikesville, Ky., attracted nationwide attention when she fought to save her young tree by laundry soap treatments. Plantings have been established in the Blue Ridge Mountains in Virginia, the New Haven Experiment Station in Connecticut, and at the U.S. Department of Agriculture Station in Beltsville, Md. A 50-year-old stand of trees near Rosati, Mo., is being carefully protected by the Missouri Conservation Commission. Several small stands are maintained privately by woodlot owners.

Enthusiastic reports have recently come from experimenters at the Universities of Virginia and Tennessee. Attempts are being made to induce blight-resistance by irradiation of nuts from native trees with cobalt rays. This same atomic technique has successfully produced disease resistance in other crops. Hopes for reforestation and re-establishment of this valuable tree are high. There is new promise that the memory and tradition of the American chestnut may become a reality to Americans of future generations.

(Left) This young tree near Albany has escaped the blight thus far, has good crop of chestnuts

Cutaway surface of old chestnut fence post showing durability of this wood

Anybody Got a Spreading Chestnut Tree?

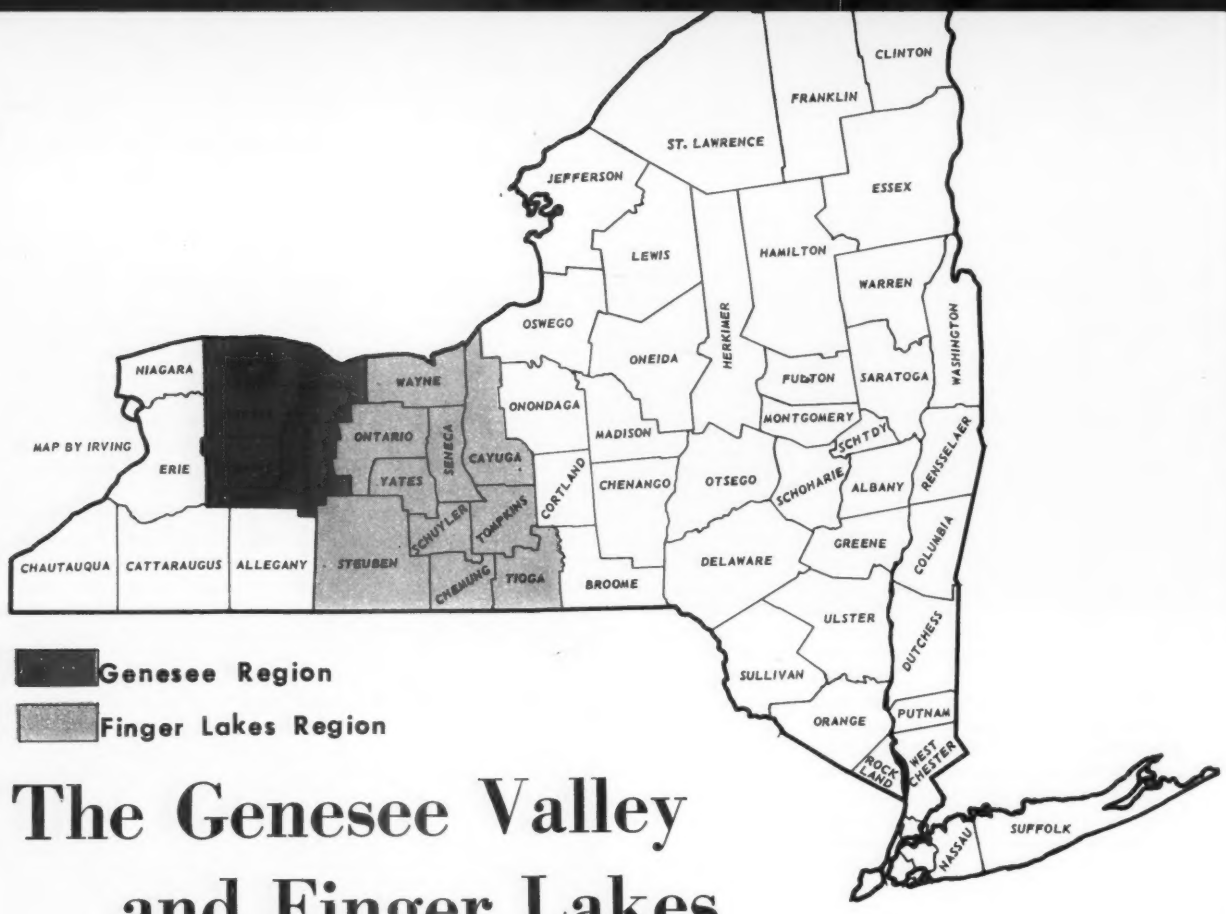
If you know of a living, American chestnut tree that is 12 inches, or larger, in diameter, breast high, will you let us know about it? The tree or trees you report just might be part of the answer to the restoration of the native chestnut as a forest tree. While we are not engaged in a research program for the restoration of the American chestnut, we are prepared to supply propagating material to those organizations who are doing such work.

We believe a great deal is at stake in this work, for the native chestnut once was a valuable food source for game, as well as people, a prime source of timber, and a self-renewable supply of fence posts because of its ability to grow again from the stump after being cut down. The diameter of the tree now seems to be of importance. The very few trees that have been found surviving the blight have been a foot or more in diameter. Every one of these trees has been found infected with the fungus that causes the disease, but these few have shown some ability to halt its spread.

What we need are such trees which can survive our New York weather, hence the search in our own State. Two years ago, the writer was shown one such native chestnut tree, 17 inches in diameter, by its owner, Frank Hatker, near Cairo. Scion wood was collected and sent to be given intensive tests for blight resistance elsewhere, the results of which are not yet known.

You may report your finds to the:
N. Y. S. Conservation Department
c/o Ralph H. Smith,
Wildlife Research Laboratory,
Delmar, New York.

Please do not report Asiatic, Chinese or European chestnuts, or European horse chestnut, as none of these will serve the purpose.



The Genesee Valley and Finger Lakes State Parks

by Robert J. Middlebrooks,
Division of Parks

THE grandeur of Letchworth Gorge and the glens and waters of the Finger Lakes feature a section of the New York State Park System as useful for recreation as it is unique in scenic attraction.

Known somewhat tritely but truly as the "Grand Canyon of the East," the 17-mile gorge in the Genesee River is the focus of the natural beauty and attraction of Letchworth State Park. It is the outstanding feature in this 13,351-acre park, 50 miles south of Rochester. The Genesee State Park Commission also has jurisdiction over 854-acre Hamlin Beach State Park and the Lake Ontario State Parkway connecting it to Rochester 22 miles to the east. Historically, the Commissioners of the Genesee Region assumed control of Letchworth Park under the unified State Park Plan enacted in 1928. In 1930, the Genesee State Park Commission was established with seven non-salaried Park Commissioners. Until then, it was administered by the Letchworth Park Committee of the American Scenic and Historic Preservation Society. After 47 years service with both groups, Wolcott J. Humphrey is still serving. He is now chairman of the Park Commission and since 1949 is also Vice Chairman of the State Council of Parks.

The gorge at Letchworth is the focal point of this park with its three waterfalls highlighted by the 107-foot Middle Falls in front of famous Glen Iris Inn. Scenic overlooks, such as Inspiration Point, are strategically placed along the gorge providing breathtaking views and panoramas and superb opportunities for eager camera fans. A modern road system through the park leads to the 81 camping cabins provided for family camping and to the day-use area at the Lower Falls section. A modern swimming pool, bathhouse and restaurant with playgrounds for the youngsters provide day-use facilities for all patrons. Since these and other facilities have been provided in recent years, the annual attendance in the last ten years has quadrupled and now totals a half million people a year.

The Indian and pioneer lore and tradition of this region is preserved and attractively presented in a Museum building near the south entrance to the Park. Many visitors, young and old, are intrigued by authentic exhibits and artifacts of the historic past. The remains of Mary Jemison, the famous "White Woman of the Genesee" are located in the Council grounds on a wooded knoll near the Museum. An attractive bronze statue of this intrepid woman was erected by William Pryor Letchworth, the original donor of the first thousand acres.

To the north, the Genesee State Park Commission also administers Hamlin Beach State Park, 22 miles west of Rochester and connected to the city by the Lake Ontario State Parkway. This "ribbon park" highway provides easy, safe pleasure car access to the public recreation facilities provided or planned along the shore front. Hamlin Beach has 854 acres of ideal day-use recreational facilities—a sandy beach, bathhouse, cafeteria and attractive picnic groves adjacent to the lake. It attracts more than 350,000 people annually and plans are underway to expand its area to the west

The Genesee River gorge at Letchworth State Park

to accommodate its steadily increasing attendance.

Nearer the City of Rochester, Braddock Bay State Park is being established to provide additional public recreation facilities, especially boating, fishing, bathing and picnicking. When these plans are brought to completion, the State will have provided the ultimate in State park facilities so much needed in a recreation conscious age.

This section of the park system will be linked with the Niagara Frontier, some 70 miles to the west. A scenic parkway drive and further park additions along Lake Ontario will be the next step in a long term plan of utilizing Great Lakes shore front for public recreation.

The Finger Lakes Parks Region, situated in west central New York State, covers a ten-county area of 7,500 square miles extending for 100 miles from Pennsylvania on the south to Lake Ontario on the north and with an average width from east to west of about 75 miles. There are ten counties in the region — Cayuga, Chemung, Ontario, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne and Yates—with nine State parks serving approximately one and a half million people annually. Five lakes of the region (Skaneateles, Owasco, Cayuga, Seneca and Keuka) appear on a map as the five outstretched fingers of a hand and doubtless this geological phenomenon brought about the name of "The Finger Lakes." These long, deep, blue lakes, the numerous rocky glens with water falls and pools, and steep rounding hillsides give the region its unique charm.

Historically, the region was the home of the Iroquois Indian Confederation composed of the Mohawks, Oneidas, Onondagas, Cayugas, Tuscaroras and Senecas.

With the enactment of Chapter 88, Laws of 1924, the New York State Legislature created the Finger Lakes State Parks Commission whose function was to locate, acquire, make accessible, protect and administer areas of scenic, recreational and historic value in the ten-county area under its jurisdiction. Seven nonsalaried Commissioners were appointed by Governor Alfred E. Smith as the first members of the Commission. Commissioner Robert H. Treman was elected the first Chairman of the Commission and served in that capacity until his death in 1937. Today, his son, Allan H. Treman, is Chairman of the Commission.

This family tradition in park service is far from unique. There are numerous parallels in the park system, such as the Perkins, Harriman and Rockefeller families, carrying on generation after generation as public spirited citizens interested in the preservation and use of public recreation facilities.

Of the parks under the jurisdiction of the Finger Lakes Parks Commission, some are famous for their beautiful glens and waterfalls, such as Watkins Glen, Robert H. Treman, Taughannock Falls, Buttermilk Falls, Fillmore Glen and Stony Brook. Newton Battlefield is noteworthy for its historical significance. Others, while equally as scenic and beautiful are primarily used for camping, bathing, boating, picnicking and other day-use recreation. Typical of these are the two lakeside parks, Cayuga Lake and Fair Haven Beach State Parks. Taughannock Falls State Park also has a beach and boating facilities on Cayuga Lake. One of the most popular is Fair Haven on the shore of Lake Ontario.

It is significant in this wonderful land of attractive scenery and beauty that less than 1 per cent of the shoreline of the entire Finger Lakes is under public ownership or control. The members of the Parks Commission, its staff and the State Council of Parks have for many years urged acquisition of additional public recreational land along the shorelines of the Finger Lakes and it is now apparent that this effort will meet with some success in the immediate future.

By legislation in 1957, the City of Geneva was authorized to transfer jurisdiction of certain lands under its control at the north end of Seneca Lake to the

The 107-foot Middle Falls at Letchworth

Fair Haven State Park on the shores of Lake Ontario

Finger Lakes State Parks Commission for the establishment of a State park to serve the needs of that area. Actual control and operation of this park with its ultimate development as a fine day-use facility is now being undertaken and the area will be in partial operation in 1959.

Application has also been made to the Federal General Services Administration for the acquisition of a portion of the former Sampson Naval and Air Force base on the east shore of Seneca Lake for the establishment of a State park. It is expected that this application will meet with approval and the Commission will obtain approximately 1,300 acres of fine park land with about three miles of shore front on Seneca Lake for all the public to enjoy. It will provide a fine camping park with beaches, boat launching facilities, fishing and related activities for the ultimate in State park development.

Generations yet to come will enjoy the result of far-sighted planning by practical park people interested only in insuring public access to the State's most prized heritages—its lakes, rivers and woodlands.

All are invited to visit and enjoy these park facilities in the Genesee Valley and the Finger Lakes. Nature has provided the backdrop and man has created the facilities. All roads lead to them and thousands take advantage of wholesome recreation for the entire family. Won't you come and enjoy them?

Lower Falls and "flume" at Letchworth

What's D

A TIME consuming feature of the biological surveys of lakes and ponds in the old days was the manual recording of water depths by use of a hand sounding line. That's still required, to some degree, but today we are using echo sounders, depth fathometers or whatever the various sonar devices are called, when used for recording water depths. These devices drastically reduce the time required for this chore, particularly on the larger bodies of water. A two-man crew using a hand line could spend weeks charting the depths of a lake the size of Upper Saranac or Indian. Today, the same crew using an echo sounder can complete the job in days—and with greater accuracy!

Most biologists have found it quite essential not only to be a reasonable master of their own trade, but a jack of many others as well. Hence, several days after receipt of the echo sounder in 1957, it was efficiently operating on a nearby lake. Normally, installation is of a permanent nature, the device becoming an integral part of the craft in which it is to be used. A simple portable set-up was devised however, that could be operated out of various outboard motor-propelled craft. Thus, it is possible to transfer this valuable piece of equipment among the several fisheries units in the State. *(The accompanying photograph shows the device ready for operation.)*

Our instrument is the Raytheon Type DE-112 Cadet echo depth sounder. It is powered by a six-volt car battery and consists of a recorder unit and a transducer. The transducer, which travels just below the water surface, beams sound waves bottomwards. These sound waves, striking bottom and submerged objects are echoed back to the recorder unit where a permanent record is made on moving chart paper by means of a recording stylus. The transducer is mounted on an adjustable strap iron clamp arrangement for use in various small boats. A shear pin can be included in the transducer mounting, enabling it to pivot if some object is hit.

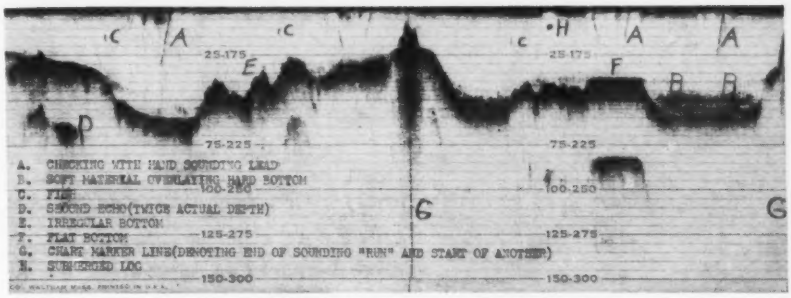
For lake and pond depth contour work, the soundings recorded on the chart paper are transferred to an outline map of the water concerned, and a contour map is assembled. When making sounding runs it is important that each individual run be made at a uniform speed. This enables accurate transposing of chart depths to the outline map.

In recent years the echo sounder has

Down Below?

A New Tool Speeds the Work of Fishery Biologists

by Robert G. Zilliox, ***District Fisheries Manager***



An actual tape recording from the fathometer

been used for a number of essentially biological purposes. These instruments range from the simple (appearing) to the complex. Some, using dials to record the depth, are useful only for that purpose. Others, using charts, provide various information pertaining to submerged objects and underwater life. Unfortunately, as yet there is now way to identify sunken Spanish doubloons or "pieces of eight" scattered on the bottom, but echo sounders nevertheless, have been useful in locating sunken objects. Last Fall, for instance, an inboard-type boat took unauthorized leave from its boathouse and slid into the depths of Lake George. This Spring, it was first spotted after the ice went out in about 15 feet of water. The location was buoyed but when salvage operations started, it was found that the boat had again shifted its position and was nowhere to be seen. By use of an echo sounder it was located in about 35 feet of water and successfully salvaged. Occasionally one encounters pleasure craft on our larger inland lakes that have sonar devices installed. In general, they are used for depth recording purposes—as an aid to navigation and to assist in "picking up" reefs and other likely fishing spots.

Boat mounting for echo sounder

Many fishermen on the open sea use echo sounders as a regular part of their fishing equipment. The patterns fish impose upon the chart are called fish traces. Fish traces are correlated with other fish signs to net areas where fish are locally abundant or to net the actual school or schools of fish indicated by the depth sounder. Occasionally one vessel will search on behalf of a whole fleet until the area of most probable fish abundance is found. Then the entire fleet fishes in that area.

These devices are so sensitive that various species of marine fish can be identified by the distinctive appearance of the fish trace. However, the size of the fish making the trace is generally unknown. In most inland waters, identification of fish as to species is not possible. Instead of large schools of fish such as are found in the ocean, one encounters individual fish in fresh water. This records a single mark or "blip" on the chart, similar in nature for all species. Some factors affecting the appearance of ocean fish traces are the presence or absence of an air bladder in the fish, the frequency or wave length of the sonar device and the size and the density of the school of fish. Some fisheries workers have grouped fish traces into four broad types: The "spot," the "comet," the "plume" and the "layer." There are many technical publications in the field of echo sounding in relation to fish. Fishery investigation reports from the Ministry of Agriculture and Fisheries, London, England, go into this subject rather intensively and also provide a multitude of references.

The use of fathometers in New York's and other inland waters has been principally geared to the preparation of depth contour maps but some investigations have been undertaken in New York concerning detection of fish. Dr. Alfred W. Eipper, Cornell University fisheries project leader, reports about experiments conducted by University biologists on Oneida Lake in the March-April, 1953, *Oneida Lake Bulletin* as follows: "To find out whether the echo sounder could detect individual fish 12- to 15-inch pikeperch were tied at four-foot intervals to a horizontal cord two feet above the bottom in 30 feet of water. The ends of this cord were attached to two vertical ropes, anchored to the bottom and marked by buoys at the surface. Each time the boat with the echo sounder passed over the cord with the fish on it, an echo of a small object two feet above the bottom was recorded. When the fish were moved to 10 feet above the bottom, echoes were obtained for an object ten feet off bottom, whenever the boat crossed above the cord. Trials conducted in the same way but without fish on the horizontal cord gave no echoes, indicating that it was the fish that produced the marks on the recording chart." Dr. Eipper also found the device useful in studying the behavior of an otter trawl (net) while it was being towed behind a motor launch.

The accompanying chart of a portion of Lower Saranac Lake shows how the echo sounder records what it "finds." Depths are recorded on the 0 to 150-foot scale. Three fisheries districts and several fish investigation projects used the echo sounder during 1957-1958. It would seem that the operation, use and interpretation data recorded by these devices will be an added trade for the well rounded (mentally) biologist.

Whiteface Mountain Ski

BACK in 1904, the Lake Placid Club offered something new to its members—a special Winter vacation "package" containing, of all things, an opportunity to climb laboriously up a snowy mountain and ski down again. But from that point, the Winter sports picture in the Adirondacks didn't exactly burst into flower. Half a century later, the same community was without a major ski development, despite the fact that in 1932 it played host to the Winter Olympics.

Happily, the "hard sledding" days are past, thanks to legislative action in 1957, authorizing up to $2½ million for development by the State of a modern ski center on nearby Whiteface Mountain. Officially opened less than a year later (in January, 1958) by Governor Harriman, the great new ski center is bringing this North Country region back to a position of leadership in the American Winter sports scene. This Winter, for instance, finds Whiteface the scene of five important racing events. One of these, the Kate Smith International Trophy Race, is the only competitive event between women's skiing teams of Canada and the United States. The event was initiated by the "Sno Birds" of the Lake Placid Club back in 1937, yet this season will be the first time in four years that this event has been scheduled for the Adirondacks. The reason: Until now, the area lacked a racing trail with lift facilities. Competitors no longer hike their course!

The new ski center was a success in its first Winter, not only because it is a terrific place to ski with its wide, varied trails and smooth riding double chairlifts which carry one 2,400 feet vertically to the summit of Little Whiteface, but also because of its striking natural beauty.

Overlooking many of the runs and shielding them from the afternoon sun is the sheer "white face" of the mountain—from which it got its name; (the white covered rock was exposed by an ancient slide near the summit). Riding in one of the passenger chairs (there are 297 of them) one travels above skiers cavorting along the lift line, a mountain stream and then along the sidewall of Little Whiteface which drops steeply to the Au Sable River 2,000 feet below. On the horizon are the Adirondack High Peaks, but look the other way and in the distance are the Green Mountains of Vermont, Lake Champlain at their feet.

Entrance to the Whiteface Mountain Ski Center is on Rt. 86 between Lake Placid and Wilmington. The two-level chalet-like lodge (it is too fancy to be called a "shelter") overlooking the Au Sable, provides space for several hundred skiers to pick up a quick lunch or just

A sweeping Adirondack vista

thaw out. Also, there is a complete ski shop, first aid room and two small administration offices. General Manager Arthur G. Draper points out that the cramped quarters do "save us from a growing staff because there isn't any place to put them!"

The first lift extends 6,200 feet from the base building into the bowl formed between Little Whiteface and the parent mountain. The second Riblet chairlift (4,200 feet in length) rises from the mid-station of the first lift to the summit of 3,660-foot Little Whiteface. These two lifts have a combined capacity of 1,600 persons per hour. That adds up to provide some 2,000 snow birds a fair amount of skiing in one day. Naturally, large crowds mean longer lift waiting lines; the dread of most week end skiers. The best solution to this problem for the skier, is for him to take his vacation in the ski season. That way, he can enjoy uncrowded slopes and, incidentally, help the ski center's week day business.

Operating a ski center involves much more than transporting people up a mountain. Basic to Whiteface's successful management is proper maintenance of trails, an experienced ski patrol and an active ski school. The trails are packed and groomed with rollers and steel chain "carpets" drawn up and down the slopes with Sno-Cats, which cost $10,000 each. The professional paid ski patrol has a dual job of helping to improve trail conditions by packing out inaccessible areas with their skis and being ever on the alert, should the necessity arise, to provide first aid to the injured. They are also assisted by a volunteer patrol. The Whiteface Mountain Ski School, presently directed by Cal Cantrell of Monticello, offers group and private lessons to skiers of all abilities. As an inducement for mid-week business and to promote the improvement of skiing the Authority is offering a $25 learn-to-ski plan which provides unlimited use of all double chairlifts and morning and afternoon ski lessons.

Interest in Whiteface for Winter vacations is increased by the rich array of snow season activities which are a part of the region's tradition. It is interesting to note that in Saranac Lake, the principal shopping center in the Whiteface area, the Branch and Callanan mill turned out about the turn of the century, some of the first skis made in this country.

Lake Placid's world fame in Winter sports is based in large part upon the pioneering efforts of the famous Lake Placid Club. With constant promotion and the cutting of many trails, cross-country skiing early became an important sport about Lake Placid. In 1920 a 35-meter jump on Intervales hill was opened. When Lake Placid received designation for the third Winter Olympics its ski jump was enlarged to 65 meters, a bobsled run built into the shaded ravines of Mt. Van Hoevenberg and the township constructed one of the Nation's largest indoor ice arenas. These facilities continue to make Lake Placid a colorful Winter resort village. The small community of Wilmington (the ski center is located within this township) has developed a keen interest in skiing because of its proximity to the new development. With several inns and a large number of motels it can accomodate many skiers.

All of this Winter sports activity and interest was, as we have pointed out, very slow to develop. Primarily responsible for tardiness in catching up with the Winter sport parade was the necessity to amend Article 14, Section 1 of the New York State Constitution to permit the building of ski trails *by the State* on Forest Preserve lands. And, it seemed that the State of New York owned the accessible sites for a big ski area. The narrow cross-country trails for the 1932 Olympics and the 1950 International FIS races were on paths built for fire protection purposes.

Actually, Placid's lack of downhill racing runs didn't affect the 1932 Olympics because the popular Alpine skiing of today wasn't a part of the Olympic program 'till 1936. Rather suddenly, in the Mid-Thirties, skiing Americans decided sweeping down a steep slope or trail was more exciting than simply pushing through the woods on skis. Downhill skiing was taken up with gusto. Twenty years ago, if a community had several

Center

Newest and Finest in the East— a Mecca for Winter Sports Enthusiasts

by Van H. Seagraves, ***Whiteface Mountain Authority***

Enjoying the ride up

The lodge at the foot of the lift

Going up

rope tows, a ski train might be headed its way on a Friday night. But rope tows have their limitations and by 1938 modern chairlifts and T-bars were being installed at the burgeoning New England Winter sports area. In the race for modern ski facilities, the northern Adirondacks was left behind.

That today's Whiteface Mountain center exists is due to an avid band of New York State skiers and friends who did nothing less than get a majority of the voters to cast affirmative ballots for amending the "forever wild" section of the Constitution so that ski trails might be built on the north or east sides of Whiteface.

Many of those who lobbied for the Constitutional amendment built in 1938 a Class A racing trail on what privately-owned land there was on Little Whiteface. Their narrow trail is today part of the Wilderness Run, one of the more popular trails with the better skiers. The first ski run on Whiteface's east side fell into disuse when the suspension foot bridge across the river was washed out and the skiers joined the famous Ski Division of World War II.

Another set back for skiing in the Adirondacks came when the State of New York built a medium sized center on the peak's north shoulder (Marble Mountain). This turned out to be "on the wrong side of the mountain," according to Hal Burton, one of those who built the early racing trail on the east side of Whiteface and labored for the amendment. The Marble Mountain area offers a vertical rise of 900-feet with a 3,300-foot T-bar and several rope tows. Its snow was often erroded by high winds and the area was never accepted by skiers. The Adirondacks continued to fall in the esteem of skiing families.

The popular new Whiteface area appears to have reversed this trend. With the opening of the area in January, 1958 there was a steady growth in the number of skiers in the area through March and into the first week end in April. Lake Placid hadn't seen a Winter season like it since the '32 Olympics. Whiteface area innkeepers are responding to the resurgence of skiing by building new units and expanding their facilities for the needs of skiing families.

Because there are so many scenic sights to be enjoyed from the two-mile long chairlifts, it is not surprising that there were as many passengers this Summer and through the season of "flaming leaves" as for the first ski season. Aside from time spent on the Little Whiteface summit, it takes an hour for the round trip ride. The lift is designed so that the chairs travel along without any noise or bumps. One might think he were floating over the mountain's slopes on a magic carpet.

In Whiteface Mountain Ski Center, New Yorkers at last have an area in which they can take pride. The only danger forseen is that the Canadians may try to adopt it. A check of license plates at Whiteface parking lots sometimes gives one the impression of being in Quebec. There is, however, one consolation in such provincial interest that should be noted by prospective Whiteface Ski Center bondholders—the Canadian dollar sells at a 3% premium over ours.

Skis and skiers congregate at the chair lift

A sled roars down the Olympic bobsled run at near by Mt Van Hoevenberg

The Land Where We Live

by Harlan B. Brumsted,
Associate Professor of Conservation, Cornell University

ON the following two pages, H. Wayne Trimm has portrayed parts of two watersheds. Searching for a descriptive title, several came to mind: Wealth vs Waste, Plenty vs Poverty, Harmony vs Discord; any, although they sound like something from the pen of Horatio Alger, would be descriptive of this "back to back" association of such striking contrast. "But," we hear you say, "this isn't real; nowhere is there such a place." Of course, you are quite right. You could go from here to Timbuktu and never set your eyes on such a close contrast of extremes. Not that the good and the bad land and water and forest and game practices do not exist; they do, just as the artist has portrayed them, only not so closely associated.

The point is, we all have to decide where we wish to live in this picture. Are we willfully going to move into that barren, bleak, polluted, eroded, dreary and poverty-stricken valley on the right? Not if we're in our right mind! (We have grave doubts, incidentally, of the sanity of the hunters and fishermen shown there with their hauls of miniature game and their carp.) Given a choice, we —and you, too, we think—will elect to live in that idyllic valley on the left. We like the pleasant, wooded hills, the neat farms, the fine herds of cattle, the prosperous village, the clear waters, the fish and the game. And we do have a choice. We can work with our watershed neighbors to manage our natural resources for the creation of real wealth or we can take the road to poverty and final oblivion through continued resource abuse. The conditions suggested in these pictures *are* vitally important to each of us.

Now, before we go any further, let's take a look at the "wheels" in our watersheds; at what makes them go well, or grind to a halt. A look at either side of the picture reveals the presence of soil, vegetation, water and wildlife. The watershed is an association of these renewable natural resources found in a given physical setting of climate and topography. Over it all is the glow of sunlight—the source of energy that makes this wondrous mechanism tick. It is important to recognize that these natural resources are classed as renewable; that is, they may be thought of as capital funds that continue to yield interest as time passes. Further, they are inter-related or dependent, one upon another, in a highly complex way. The status of one resource, for example, may be threatened simply by the unwise use of another. Therein lies the root of the conflict of interest so common when man comes to make use of renewable natural resources.

In the watershed complex, surface water takes on special significance, for it represents a primary link tying together all the resources of the drainage basin.

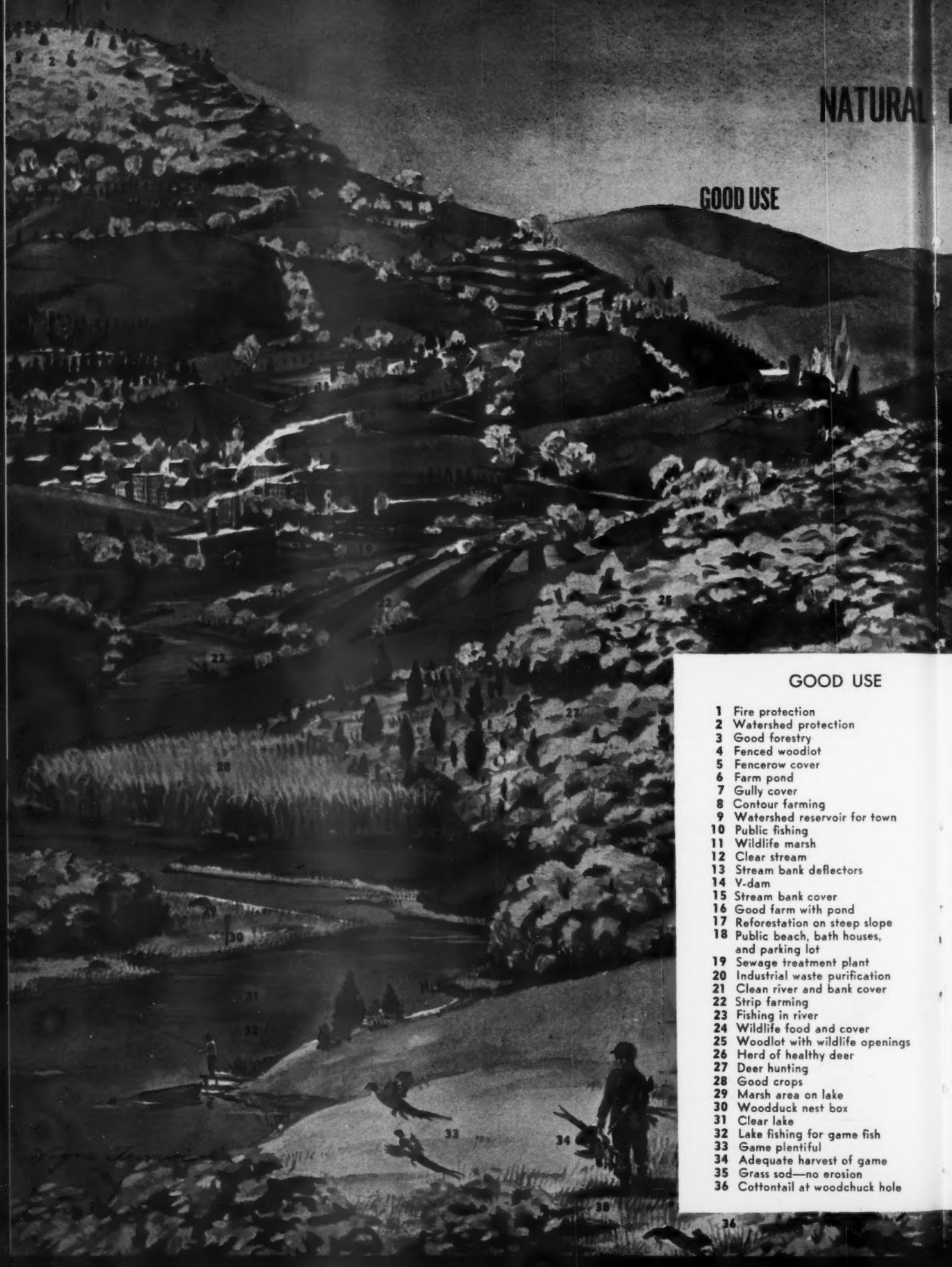
Another look at the watersheds on the following pages furnishes many forceful illustrations of these points. Man and his works are much in evidence in both pictures. On the left, the picture of productivity and prosperity conveys the impression of a balanced, harmonious man-land relationship. To be sure, there is intensive development and use of the resources in the watershed, but the use exists in such a way as to insure continuous flow of benefits from the resource fund—resource capital is not being depleted. The key is found on the uplands of the drainage basin where agricultural and forestry practices have so manipulated the vegetation as to hold the soil in place and keep the raindrops in check. The continuous cover of forest and grassland, strip-cropped fields, ungrazed woodlots, plantations are symbols of wise investment and of control. Together, they have "paid off" downstream. The river has a more uniform year round flow; its silt load is low and consequently it is an asset of great value to the entire watershed community.

In an association of resources such as this, the river becomes, in a sense, a barometer of conditions in the drainage area, indicating by its nature and behavior the way in which soil and vegetation resources are being managed. For example, if only the color and barren banks of the river on the right were visible, something of upstream conditions could be deduced. The presence of up and down hill cultivation on steep slopes, grazed woodlots, cut and burned over forestland and a general lack of soil-anchoring vegetation could be predicted. As portrayed in the painting, these contributing causes likely would be there. So would the broad consequences—the faltering agriculture, limited industry, decadent community. Here, through over-exploitation of soil and vegetation, the water storage capacity of the soil has been lowered, runoff speeded and the stage set for accelerated erosion. The effects become cumulative and downstream, add up to floods with their devastating threat to life and property, river waters poor in quality and expensive to treat for human consumption or industrial use and the virtual absence of recreation opportunities. It is a picture of rapid expenditures from the fund of resource capital.

At this juncture, let us try to take stock of the status of renewable resources in our State by holding these pictures as measuring sticks against our watersheds—yours and mine. Doing this, the writer concludes that overall, our hillsides resemble the scene on the left of the painting, the ideal, more closely than the conditions depicted on the right. To be sure, we see about us examples of severe erosion, some cultivation that isn't on the contour, cut-over woodlands and so forth, but by and large, there is forest, or at least continuous vegetative cover on most of the steep upstream segments of our watersheds. As in the left hand picture, today's agriculture is confined mostly to the valley floor. Where hillsides are used for grain or row crops, fields usually are worked across the slope although even actual strip cropping may not be as common as some would like to see. Also becoming more commonplace in the real scene are the farm ponds, marshes, fenced woodlots, plantations, etc., but again, refinements like the plantation's shrub border or fence around the marsh, may be missing.

Previously it was suggested that the river could be an indicator of the condition of the complex of resources in the watershed. If our rivers, as we see them today, are compared with the picture, we might find a situation that just

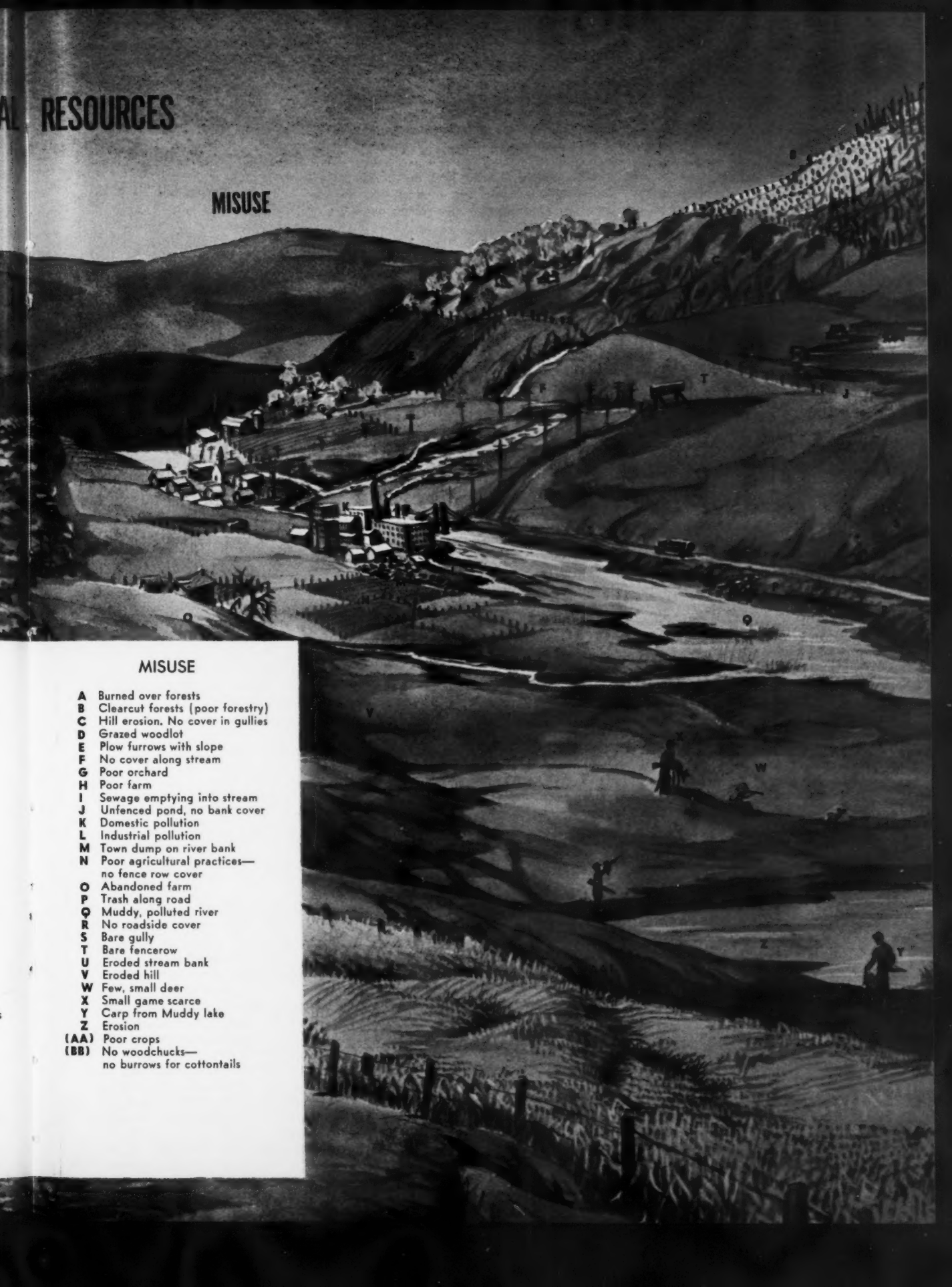
(*Continued on page* 26)



GOOD USE

1 Fire protection
2 Watershed protection
3 Good forestry
4 Fenced woodlot
5 Fencerow cover
6 Farm pond
7 Gully cover
8 Contour farming
9 Watershed reservoir for town
10 Public fishing
11 Wildlife marsh
12 Clear stream
13 Stream bank deflectors
14 V-dam
15 Stream bank cover
16 Good farm with pond
17 Reforestation on steep slope
18 Public beach, bath houses, and parking lot
19 Sewage treatment plant
20 Industrial waste purification
21 Clean river and bank cover
22 Strip farming
23 Fishing in river
24 Wildlife food and cover
25 Woodlot with wildlife openings
26 Herd of healthy deer
27 Deer hunting
28 Good crops
29 Marsh area on lake
30 Woodduck nest box
31 Clear lake
32 Lake fishing for game fish
33 Game plentiful
34 Adequate harvest of game
35 Grass sod—no erosion
36 Cottontail at woodchuck hole

AL RESOURCES



MISUSE

- **A** Burned over forests
- **B** Clearcut forests (poor forestry)
- **C** Hill erosion. No cover in gullies
- **D** Grazed woodlot
- **E** Plow furrows with slope
- **F** No cover along stream
- **G** Poor orchard
- **H** Poor farm
- **I** Sewage emptying into stream
- **J** Unfenced pond, no bank cover
- **K** Domestic pollution
- **L** Industrial pollution
- **M** Town dump on river bank
- **N** Poor agricultural practices— no fence row cover
- **O** Abandoned farm
- **P** Trash along road
- **Q** Muddy, polluted river
- **R** No roadside cover
- **S** Bare gully
- **T** Bare fencerow
- **U** Eroded stream bank
- **V** Eroded hill
- **W** Few, small deer
- **X** Small game scarce
- **Y** Carp from Muddy lake
- **Z** Erosion
- **(AA)** Poor crops
- **(BB)** No woodchucks— no burrows for cottontails

(*Continued from page* 23)
doesn't jibe with the foregoing statements about the appearance of our hillsides. To this observer, a true portrayal of the scene today would show many elements of the protected, well vegetated watershed on the left, but a major watercourse that more nearly resembles the one on the right! If this statement strikes anywhere near reality, the seeming paradox perhaps can be explained by a look back in history and a further consideration of the nature of these renewable resources.

We have had over-exploitive use of renewable resources—even in the extremes shown in the picture. To understand why this took place but in large measure has yielded to conservation, another frame of reference must be plugged into our thinking—the social, economic and technological circumstances of the time. Our trust fund of resources was inherited from grandfather—an old gent who often has taken quite a beating from convention orators and writers for his abuse of our soil, water, forests and wildlife. Grandfather's side of the story is seldom heard and little appreciated. Nevertheless, his is quite a story! Using what means were available to him in his day, he carved an eminently great nation from the wilderness. True, he hacked up things plenty and spent large amounts of resource capital doing the job, but again, consider his circumstances. Furrows that run up and down the slope have, to some, become a symbol of the way he wastefully mined the soil. True, but those same vertical furrows helped drain the surface of the wet, heavy hill soils he farmed; enabled him to plant his crops early enough in the Spring to assure harvest before frost in the Fall. In grandfather's day, during the reign of a subsistence agriculture, producing the necessities of life for a new generation, were jobs that had to be tackled single-handed, without much help from machinery, technical assistance programs or incentive payments from Uncle Sam. Methods may have been wasteful but they worked. Our very existence and strength today stands as proof.

But how about this change in the landscape, how did it come about? Right here is where it would seem appropiate to applaud the many—the rank and file citizens and the professionals alike—who have labored long and hard to advance something we recognize as the conservation movement, the total effort of the last half century to end waste and pilferage of natural resources and put their management on a sustained yield basis. Well, much credit can go in this direction, for looking around practically anywhere in the State, we do see fine examples of conservation in action. Still, neither conservation nor conservationists had much to do with what was perhaps the greatest change in the New York landscape of the past 100 years—the disappearance of over 135,000 farms which swept something like 7 to 9 million acres of land out of agriculture and paved the way for Nature to bring back the forest and some important forest products like deer, bear, grouse, snowshoe rabbits and turkey.

Some would hold that it was the decades of exploitation that alone caused these millions of acres to be abandoned from agriculture. It is difficult, however, to marshal facts to support this claim. Closer to the truth is the fact that in the sharp competition of modern commercial agriculture, staying in business has required being able to adopt and make efficient use of a host of new machines, improved crop varieties and up-to-date practices. The harsh fact of the matter is that these new technologies have enhanced the competitive position of the valley or plains farmer who possessed better soil resources to start with and is favored to an additional degree by climate, topography and nearness to market. These circumstances spelled the end of thousands of hill farms. But in the process there was gain along with the loss; grasses and new woodlands moved in to re-clothe the hillsides and the remainder of our agriculture continues to advance in productivity.

The explanation of the paradox of green watersheds and rivers that often run brown or out of bounds, still is not complete. The underlying reason, as you already may have concluded, is that the river still reflects permanent damage dealt to the watershed complex of resources, particularly the soil. In effect, the patient shows many outward signs of recovery, but deep-lying symptoms of illness keep cropping up.

So, looking around today, we see that we have inherited depleted funds of renewable resources. At the same time we are struck by the realization that our human population is booming, bringing greatly increased pressure upon natural resources not only for more of the age-old needs of food and fiber, but for outdoor recreation on a super scale, water by the billions of gallons for supplemental irrigation of our crops (yes, right here in humid New York!), natural resources for new industry, and even places to discard huge quantities of old and new forms of waste products. The task of allocating and managing natural resources to yield maximum benefits to present and future generations adds up to immense proportions. However, we are, it seems, quite well prepared to meet this challenge.

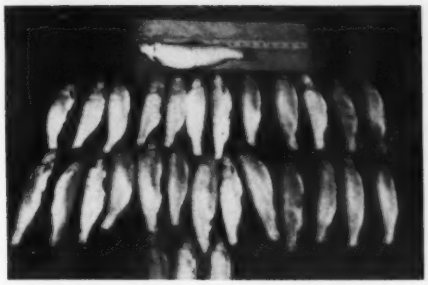
To help wage the campaign we can count on such allies as a better informed citizenry, more awake to resource dependencies and quick to thwart ambitions of those who would grab resources for personal gain. We have come far in developing effective administrative agencies and bringing together citizen groups to aid in formulating policy and helping guide action programs. There is a backlog of information—the products of years of research in the resource fields—that is available to shape our programs and specific practices. And we have skilled, experienced administrators, research workers and management specialists serving us in these fields.

But meeting the future need for natural resources will demand much more than mustering the forces that have been named. The list of tools and conditions required to do the job would be long and involved, but some that seem especially critical are set forth here. Although not described at length, it is hoped that they will kindle some thought and discussion.

One major need is for ever wider recognition of the complexity of our resource problems and the understanding that their solution will be equally complex and difficult to attain. There is the tendency for us to adopt and to follow, almost blindly, one solution from which we expect near miracles. Thus, over the years, we have followed such band wagons as "protection," "reforestation," "conservation farming," "down with big dams," etc. Perhaps this behavior stems from the decades past when we were faced with widespread despoilation of virgin forest and when beating the drums for "protection" was a clear-cut need and a solution that worked. But times have changed. We are faced now with the gigantic problem of developing and using natural resources to their maximum *but short of* reducing the basic or capital funds. In a sense, the task now calls for a train of band wagons with highly skilled drivers to decide which ones to bring to the fore in a given problem. There will be no panaceas and few short cuts.

An associated challenge is conservation education. Our success in solving resource problems will hinge in large degree on gaining general public awareness of man's dependency upon natural resources, of the nature and urgency of our resource problems and of the course of action to be followed in meeting them. The general education program of the State Conservation Department is one of the Nation's finest, but our State lags far behind in the amount of conservation subject matter instruction offered in teacher training institutions and throughout the public schools.

(*Continued on page* 34)



A sample of rainbows from East Masonville Pond—av. length 10.4"

by A. C. Petty,
District Fisheries, Manager

A Lesson at East Masonville

EAST Masonville is a quiet, little country village tucked away in the beautiful rolling hills of western Delaware County. To the non-resident, there's nothing in particular to set the town apart from such neighboring hamlets as Trout Creek, Northfield, Bartlett Hollow and Rockroyal except: East Masonville has a 25-acre, namesake pond perched on its doorstep.

Actually, East Masonville pond didn't add much in the way of distinction; at least, not before 1956. Anglers reported that fishing here varied from poor to terrible while some of the more outspoken Waltonians used even more vivid descriptive terms. The catching of a game fish was truly a banner event. As a bathers' paradise East Masonville ended up near the bottom of the stack again. The water was turbid at all times and uninviting to swimmers.

Needless to say, when the local people heard that some action might be taken to improve fishing conditions, their co-operation was readily obtained. East Masonville Pond had been under study for several years by biologists in connection with a Dingell-Johnson project concerned with experimental carp control. The stage of the study was reached where it was necessary to eradicate the over-produced carp population.

East Masonville Pond is a headwater pond created by an earth and stone dam. Two or three small intermittent streams that run only during periods of considerable rainfall or run-off are tributary to the pond. For several months each year the water level drops below the overflow pipe through the dam. The depth of the pond is quite uniform with an average of eight feet and a maximum depth of nine feet. Water temperature checks during the Summer months have shown that the temperature varies from 75 degrees F. near the bottom to 81 degrees F. at the surface in hot weather.

In July of 1955 the pond was treated with emulsifiable rotenone with excellent results. It was soon apparent that fishermen had been right in their opinions about the quality of fishing here. Crews in boats and on foot recovered 12,000 carp by actual count and estimates placed the total number at 31,000 or 290 pounds per surface acre! Carp made up approximately 95 per cent of the poundage of all the fish recovered. Other species taken included yellow perch, smallmouth bass, pikeperch, and bullheads. By actual count only a dozen game fish of legal size (smallmouth bass and pike perch) were recovered. Eight days following the application of rotenone the water was again non-toxic to fish life.

It was decided that the initial management should be for trout. Why trout, one might well ask, when water temperatures are so high in Summer? Well, first because studies have shown that trout do surprisingly well in comparatively warm ponds when there is no competition from warm-water fish. Second, because trout, especially over 10 inches, are not run-of-the-mill items in this area and are held in high esteem. Third, in most ponds the numbers of trout are directly controllable by stocking; the matter of over-production of young fish, often a problem with warm-water species, is usually of little concern with trout. Finally, there was little chance of the reintroduction of non-trout species except from the bait bucket. If such species do become reestablished a change to warm-water fish management can be readily achieved. A change in the reverse direction is seldom successful without taking drastic measures such as reclamation.

In September of 1955 an equal number of brook and rainbow trout fingerlings were placed in the pond. In the Spring of 1956 a planting of brook trout yearlings was made in order to insure fishing in the event the fingerling stocking did not produce satisfactory results. Scanty reports indicated that fishermen took trout during the 1956 season but this information, as usual, was difficult to come by. Test netting on October 31 showed that both brook trout and rainbow trout were present in considerable numbers and had made good growth. The rainbow trout 3 inches long when stocked 13 months previous now averaged 12¼ inches in length. The brook trout averaged 10¼ inches in length as compared with 4½ inches for those stocked as fingerling fish.

During the 1957 season more reports on fishing in East Masonville Pond trickled in as the list of satisfied customers increased. Catches of trout were reported even during the doldrums of July and August. On September 26th another netting check showed that rainbow trout were still present in abundant numbers but somewhat smaller in average size than was found on October 31, 1956. Rainbows averaged 10.4 inches when netted compared with 2¾ inches at planting time 12 months earlier. The smaller average size may possibly be due to the increased number of trout in the water, warmer water temperatures in 1957, and to a shorter period (12 months) between planting and sampling than in 1956 (13 months). The brook trout sampled averaged 6.2 inches in length and were taken in greatly reduced numbers. On the basis of the limited information obtained to date it would seem that rainbow trout are better able to survive and grow than brook trout under existing conditions in the pond.

Occasional creel checks during the early part of the trout fishing season this year showed that rainbow trout taken ranged from 10 to 17 inches in length with an average of 12¼ inches. The brook trout creeled averaged 7½ inches. The rainbows were from the Fall of 1956 planting while the brook trout were planted in the Fall of 1957.

To that segment of sportsmen who have a low regard for research and who ask for increased stocking irrespective of habitat suitability, it should be pointed out that the improved condition here is a by-product of research. Fish stocking without a change in the previously existing fish population would have been of little or no value. Rotenone, a fish toxicant that holds great promise for improved fish management when wider use is possible, was instrumental in making the difference between poor fishing and good fishing.

We need a lot more East Masonville ponds around the State. The local people are happy about the improved fishing, so please co-operate and leave the minnow bucket in the garage when you try your luck here. It should be pointed out that all of the land around this lake is in private ownership. Please respect the landowner's rights, don't litter or destroy property, be a real sportsman and help keep this water open to public fishing.

Local salt accompanied pioneers on the way West. Here a buffalo hunter surveys his kill at a water hole

Settlers' Salt

by H. Wayne Trimm

TO the casual observer, August 16, 1654 would have seemed much like any other Summer day in the wilderness valley of the Onondagas. Unspoiled forests crowded the shores of the lake and Indian canoes moved quietly across the surface as they had for centuries. But on this day, one of the canoes carried an unusual passenger who was destined to make a discovery that would help open up new country and establish a nation. He was Father LeMoyne, Jesuit priest from Quebec, the first white man ever to visit the valley. For some time the Indians had been telling him about a spring of bad water and he had asked to see it. The Indians, believing the water to be evil, were willing to show it to this bearded, black-robed visitor. Perhaps, with the Cross he always carried, he could drive out the evil spirits that lived there and make the water fit to drink.

Tasting the water from the spring, Father LeMoyne found it to be salty. Here was a discovery worth recording: Hundreds of miles from any ocean, a natural supply of salt that would season and preserve foods, preserve hides of animals, and make living easier for the colonists who would face the hardships of the new land. Father LeMoyne boiled some of the brine and returned to Quebec with the salt crystals. In spite of the evidence, it was nearly a century before the spring was again visited by white settlers.

Perhaps Sir William Johnson heard of the salt because in 1751, before there were any whites in the area, he bought for 350 pounds sterling, all of Onondaga Lake plus a strip of land two miles wide along its shore. The title of the land returned to the Indians as the result of the Revolutionary War. On September 12, 1788, two years after Ephraim Webster, the first white settler arrived, New York State made a treaty with the Indians for all land in the area except Salt (Onondaga) Lake and a strip of land one mile wide along its shore. This seemed fine until more settlers arrived and trouble broke out. So on July 28, 1795 the State bought the lake and land from the Indians for $700 plus a hundred bushels of salt to be delivered on June 1st of each year.

By this time, the white settlers who now lived in the valley were making salt, but mostly for their own use. Meantime, more people, drawn by the urge to explore and settle the vastness of the new country, were pushing west. And they too needed salt; salt to bargain for food, wives and for peace with the Indians, to preserve their game and the skins of the animals they hunted and trapped for clothing and profit. So the Onondaga valley settlers made more and more salt, starting an industry that would influence central New York for many years.

From this small beginning the salt industry grew until, in 1862, more than 9 million bushels of salt were produced. Wells were dug and drilled, producing brine that was carried in wooden pipes to the salt blocks with the rows of kettles and huge furnaces where the water was evaporated to leave the fine crystals.

It was an exciting time. More people moved in and communities grew. The Erie Canal, completed in October, 1825, was routed so that it passed the salt springs area and brought more business

(*Continued on page* 30)

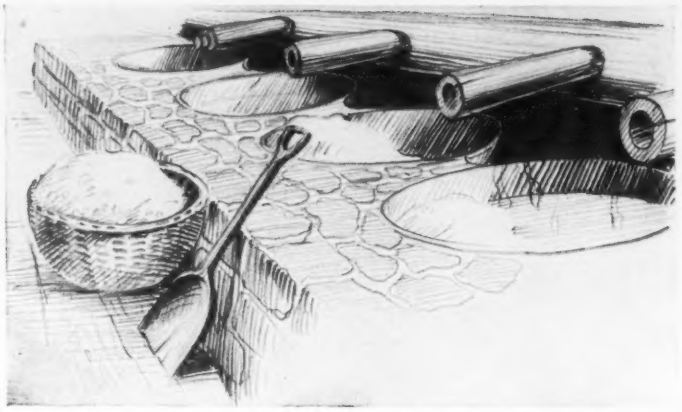
Loading salt from the drying sheds

Salt for shipment was weighed by the barrel

Storm bell warned of coming rain; workers hurried to cover salt drying sheds

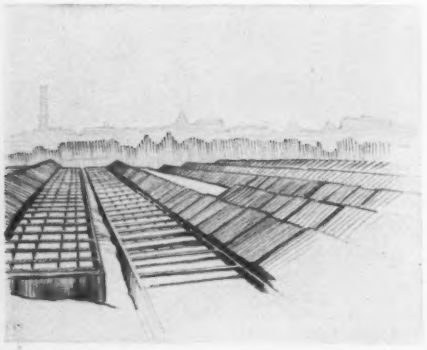
New York salt was an important item of cargo in early canal days

Thomas K. Gale, Sr., a pioneer in the salt industry



Salt block. Furnace below the caldrons evaporated brine. Salt was collected in wicker baskets

Salt museum with bell tower and drying sheds



Salt drying sheds against the skyline of Syracuse

(*Continued from page* 28)

as well as an economical way of distributing the salt. For nearly three quarters of a century the salt wells furnished the major industry in Syracuse—an era well documented by the name of the main street in the city—*Salina.*

It was a boom time and fortunes were made and lost. One of the first and most successful pioneers in New York's early salt industry was Thomas K. Gale, Sr. from England. His son carried on the business until 1926 when the local salt production was replaced by mining in Michigan and other areas.

The original and best method of salt manufacture from brine was to evaporate the water from the solution in caldrons heated by furnaces. As the forests were cut and fuel became scarcer and consequently more expensive, the solar or sun method was used. For this, the brine was flowed into large wooden trays or "sheds" which were equipped with roof-like covers on rollers. These trays of brine were exposed to the heat of the sun's rays which evaporated the water and left the salt. The biggest problem with this method was the threat of rain. Whenever storms seemed to be approaching, bells on towers would be rung sending men scurrying to get the covers in place before the rain turned the salt back to brine. At one time the salt sheds stretched for several miles along the lake shore. There must have been quite a scramble when a sudden storm blew up. While the solar methods was quite cheap, the product was of poor quality compared to that produced in the blocks.

Today the salt industry of Syracuse is a memory, but it is a memory as alive as the Nation it helped to open and the State it helped to shape.

On the shore of Onondaga Lake near the site of the major part of the salt industry a Salt Museum has been established. The main building is a reconstructed salt block containing the tools of the trade and many rare and interesting old photographs. Outside is a bell tower and bell and a salt "shed" from the solar salt days. The sketches shown here are based on material in the Salt Museum.

Interior of the "Adirondack"

From a cut in Fish Commissioners' annual report for 1902

The Fish Car—*Adirondack*—An Era Passes

by James Lindsey

FOREMAN Charlie Walters of the State's Cold Spring Harbor fish hatchery was up and about early this April 2nd morning. Some of his men were on hand, too, the group standing in the lee of the Huntington railroad station to escape the chill, early morning breeze off Long Island Sound. Charlie flipped open his watch case, checked the time. The group moved out, coat collars turned up, to watch intently up the single track toward New York City and upstate. The 5:27 was due. Ah, there it was in the distance, the locomotive spewing smoke and white steam, the same as every morning. Well, not quite. This April 2nd morning there was a difference. This morning the hatchery men were awaiting something new—a peculiar new baggage car, especially equipped for the transportation of live fish. This particular morning was to see ushered in a new era of live trout distribution. The year was 1891.

This new fish car was fitted with the latest appointments for the convenience of the men who travelled with the fish. It was built by the Gilbert Car Company of Troy (N. Y.) at a cost of $3,800, exclusive of the trucks which the New York Fish Commission purchased second hand from the United States Fish Commission for the sum of $413.60. About 75 per cent of the space in the car was for carrying fish cans. The living quarters at one end of the car contained toilet, sinks, cook stove, ice box, four bunks, table, chairs and closets. The Commission had already spent more than $700 over the legislative appropiation so it was necessary to postpone installation of shad hatching facilities in the car until a later date. The fish car was christened *Adirondack*. This title was most appropriate, for then as now, in the minds of many anglers the word "Adirondack" is synonymous with the best in fishing.

The New York State Commissioners of Fisheries were already beginning to feel the pressure of fishermen for more stocking with artificially propagated trout. The State's hatchery system had grown from one hatchery at Caledonia to six hatcheries at various places in the State in the space of 20 years. The Commission's 18th Annual Report (1890) stated: "The Commissioners ask, in their estimate of the moneys for the coming year, for an appropriation of thirty-five hundred dollars for the purpose of purchasing and fitting up a car for the distribution of eggs and fry and for hatching salmon and shad on the Hudson River."

This made quite a lot of sense at the turn of the century for New York State was laced with many thousand more miles of railroad than now exist. Local transportation was by buckboard, but travel of any distance was by rail. It was necessary, therefore, for fish distribution to rely almost wholly on rail travel to supply fish around the State. The railroads had been most co-operative with the Fish Commission, making no charge for the transportation of fish in cans or for the accompanying messenger. In their Annual Report for 1902 the Commissioners made note: "Attention is called to the very liberal courtesies extended to the Commission by the railroads of the State, particularly the New York Central and Hudson River Railroad, the Ontario and Western, the Delaware and Hudson Company, and the Buffalo, Rochester and Pittsburgh Railroad, for transportation furnished free to the State fish car and to the messengers in charge of the fish and in returning the empty fish cans." Were the railroads losing thereby? Hardly! Most sportsmen who wanted to go fishing in the Adirondacks or Catskills in those days paid the railroads well for transportation. It was just good business for the railroads to do everything possible to promote the sport.

But times changed and during the 1920's the railroads lost their "enthusiasm." Still it was pretty reasonable—transportation for the fish car was charged at only twelve times the fare for one passenger.

Until 1928, the *Adirondack* plied its trade from early Spring to late Fall in all corners of the State. It was equipped in the early 1900's with shad hatching equipment. In July of each year it was spotted on a siding at Rhinebeck, on the Hudson River, where shad were netted and stripped. About 10 million shad fry were hatched in glass jars in the car and were then planted in the Hudson at this point.

Always on hand in the early days to herald the arrival of the *Adirondack* at a fish distribution point, was an array of horse drawn wagons, buckboards and other equippage to receive the cans of fish and transport them to the neighboring streams and lakes. Later on, of course, in the 1920's, motor trucks began to replace the horse and wagon.

In 1927 the *Adirondack* finally gave up the ghost after many hundreds of thousands of miles of faithful service. It was replaced in 1928 by a new steel car of the same general design which carried its predecessor's illustrious name. In 1935, oxygen-equipped tanks were installed on the fish car. This enabled much heavier loads of fish to be carried.

But, "the old order changeth," and fish transportation is no exception. The advent of good trucks and the improved system of highways, coupled with the decline in railroad mileage, were tolling the knell for this method of fish distribution. After World War II, the Department's fleet of 50 tank trucks was adequate for the task. So the *Adirondack* was "pastured" for good at its Winter quarters' shed at Caledonia where it now waits disposal as surplus property.

The 56 years in which the fish cars were in use spanned a most colorful period in the history of New York State, and modestly, the *Adirondack* furnished part of that color.

Can Quail Come Back?

The Bobwhite Gets Another Chance in New York

by Charles P. Brown,
Game Research Investigator

BOBWHITE quail were fairly plentiful in New York State until the beginning of the Twentieth Century, according to historical accounts. Their cheerful call was heard in agricultural areas as far north as Jefferson, Saratoga and Washington counties. By 1910, however, they had become so scarce as to be rarely seen anywhere in the State except on Long Island and in the lower Hudson Valley. Bobwhites have persisted in these southern New York areas, assisted at times by shots-in-the-arm in the form of Departmental stocking, but have never reoccupied their former range across the central part of the State.

During the 1930's the Conservation Department released several thousand bobwhites in areas of former quail range in the hope that the birds would multiply and eventually regain their place on our game bird list. Most of the birds used for stocking were purchased from sources in southern states and Mexico—the so-called southern bobwhite. Unfortunately, very few of these birds survived their second Winter in the wild and it is believed that our northern winters proved too rigorous for them. Upstate releases during 1933 and 1934 of bobwhites reared at our Middle Island Game Farm (Long Island) likewise were unsuccessful.

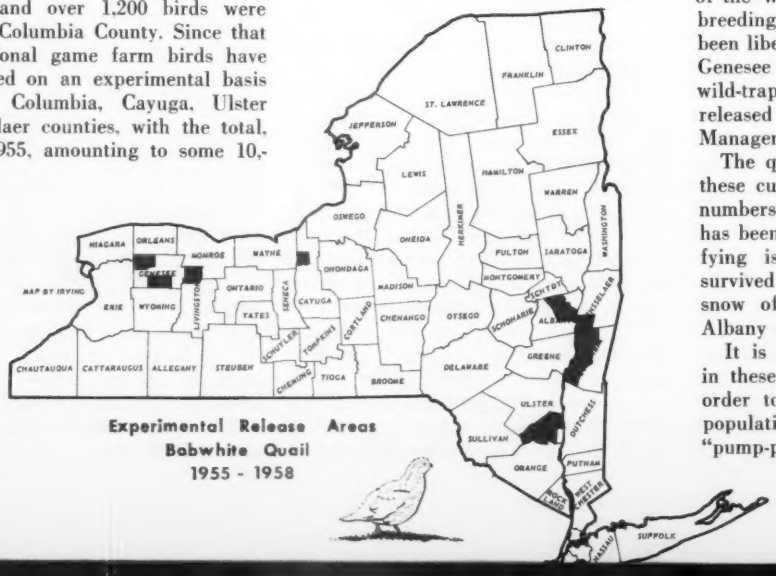
Meantime, work continued at the Middle Island Farm in an effort to develop a strain of bobwhites better adapted to our climate. In 1955 it was decided to try again, and over 1,200 birds were released in Columbia County. Since that time, additional game farm birds have been released on an experimental basis in Albany, Columbia, Cayuga, Ulster and Rensselaer counties, with the total, including 1955, amounting to some 10,000 quail.

(From a painting by Louis Agassiz Fuertes)

During the past two years, limited numbers of bobwhites, live-trapped in the Province of Ontario, Canada and in Wisconsin have been released in Livingston County (western New York). A number of the Wisconsin birds were retained as breeding stock and their progeny have been liberated in Livingston, Monroe and Genesee counties. In addition, a few wild-trapped quail from Ohio have been released on the Oak Orchard Game Management Area in Orleans County.

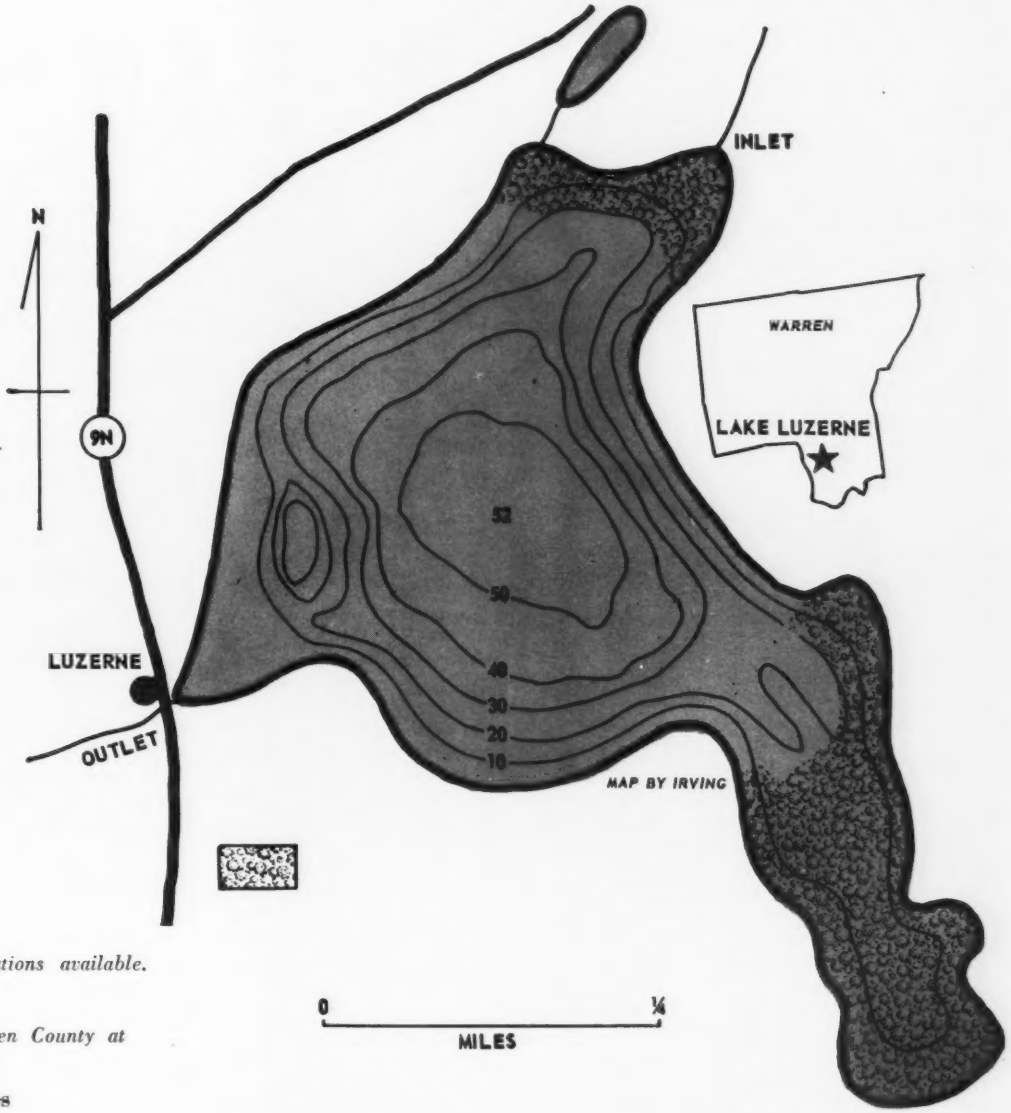
The quail released in connection with these current tests have survived in fair numbers in some areas, and brood success has been encouraging. Particularly gratifying is the fact that several coveys survived the bitter weather and deep snow of last February and March in Albany and Columbia counties.

It is planned to discontinue stocking in these two counties after this year in order to learn if the present bobwhite populations will increase without further "pump-priming."



Experimental Release Areas
Bobwhite Quail
1955 - 1958

Lake Luzerne
(Warren County)



General
Tourist accommodations available.
Boats available

Location
Southwestern Warren County at Village of Luzerne

Physical Features
Area: 109 acres
Maximum Depth: 52 feet
Elevation: 624 feet
Length: Approximately 0.75 miles
Maximum Width: Approximately ½ mile

Chemical Characteristics
pH: Alkaline
Oxygen: Good at all depths

Hunting in Vicinity
Deer
Grouse
Bear
Snowshoe rabbit
Bobcat

Fur Bearers in Vicinity
Beaver
Otter
Mink
Raccoon
Muskrat

Fish Present
Brown bullhead
Northern pike
Yellow perch
Smallmouth black bass
Largemouth black bass
Pumpkinseed
Rock bass
Rainbow trout
**Red salmon*
Suckers
Minnows

**This species of Pacific salmon has proven rather difficult to successfully catch in New York waters. In Lake Luzerne however, the red salmon is providing good fishing*

ROBERT G. ZILLIOX
District Fisheries Manager,
Adirondack Fisheries District

the back of the book

The Land Where We Live

(*Continued from page* 26)

In New York, as elsewhere, conservation matters touch virtually every segment of our population with the consequence that many citizen organizations maintain an active interest in resource policy. The stands taken by these groups often are conflicting, and as pressures for resources mount, the clashes of interest will intensify. For these groups the future holds a great opportunity to enlarge their role by helping formulate policy that will embrace not only their limited interests but will be more nearly equitable for all. Such efforts will, of course, call for the best of informed and imaginative leadership.

Future resource problems will demand that State government act directly in drafting sound, enlightened resource policies, and administer them with high effectiveness and efficiency. Today, however, resource policy formulation is a function of the Legislature and voter; our government acts only on specific matters where authority has been delegated by the people. Further, the jurisdiction of the Conservation Department is broadest only with respect to forestry and wildlife, and even within these areas, severe restrictions exist. The inter-related nature of natural resources brings a vast range of problems to the Department, yet, it can attack only those in specific categories. Conservation progress in New York would be furthered greatly if the scope of responsibility of the Conservation Department were broadened and more authority for policy making placed at this administrative level.

How about trained manpower — our problems will require the best, but will it be available? This may be the most important question of all. Events of recent months have raised career interest in engineering and the physical sciences to new heights. Earthbound problems seem, temporarily at least, to have lost some appeal, but their existence and urgency are still very real. In conservation fields we will need a continuous supply of skilled specialists in forestry, soil and water conservation and wildlife management, and there even is evidence of new career opportunities, too. For example, demand is growing for generalists in resource management with training in public and business administration to serve business, industry and government. Challenge? Consider our soaring population, our fixed resource base and our objective of wise use of natural resources —*for the greatest good, of the greatest number,* for all time.

The muskrat

In the Alogonquian Indian language he was called *Musquash*. The Hurons called him *Ondatra* and that has now been adopted as his scientific name. But the best Indian name of all meant "little brother of the beaver." He gnaws like a beaver, swims like a beaver, builds houses like a beaver, and looks like a little beaver. We call him muskrat because, also like the beaver, he has a pair of musk glands used to leave messages for others of his kind.

This is the most important fur bearer to the trapper and to the American fur industry. More than any other wild animal, the muskrat converts millions of acres of cattail marshes and weedy shores into a crop of fur and flesh. To the farm boy with a few traps it means money in the pocket and experience in the skills of outdoor life. Our womenfolks prize rich warm coats of Hudson seal, the trade name for muskrat fur. The dark red meat has a wild game flavor but, because the word "rat" is unpleasantly suggestive, muskrats appear on menus under such names as marsh rabbit and Maryland terrapin.

Sometimes these animals become a pest, raiding corn fields and other farm crops near the water's edge, but they do the most damage to earthen dams, dikes, levees and canal banks which are occasionally destroyed through leaks started by their burrows.

In cattail marshes and other shallow weedy waters, muskrats pile up great heaps of aquatic plants to build a house or lodge that has, inside, a warm living room reached by an underwater entrance. From this home they range out to feed on the succulent roots and stems of aquatic plants, even under thick ice in Winter. However, in streams, farm ditches, and in many ponds and lakes, especially during Summer, muskrats live in burrows dug deep in the banks. Those burrows start beneath the surface and slant upward to an enlarged chamber above the water level.

The muskrat is a thickset, short-legged animal with a foot-long body about the size of a small cat. The adults average two pounds in weight but, rarely, reach four. It has a 10-inch black scaly tail which is flattened vertically—unlike the broad paddle-like tail of a beaver. This tail is used as a rudder, or to scull slowly, or to smack the water as a danger signal. The fur is dark brown on its back, with very thick waterproof underfur and long reddish-brown glistening guard hairs.

Muskrats have small beady eyes and ears which are nearly hidden in dense fur. The hind feet are large, webbed between the toes, and used like the flippers worn by skin divers. While swimming, the small forepaws are folded underneath the chin. Like all rodents, it has a pair of chisel-teeth or incisors above and below, separated from the grinding teeth or molars by a gap, and its lips can be closed behind the chisel-teeth to keep water out of the mouth while gnawing beneath the surface.

A muskrat is clumsy and slow on land, seldom venturing away from water in daytime, but it is a courageous scrapper when attacked or cornered. Next to trappers, its greatest enemy is the mink which raids muskrat houses and burrows to eat their young.

In trappers' language they are "mushrats" or just plain "rats."—*Nature Bulletin*, Forest Preserve District, Cook County, Ill.

Virgin timber

Time was turned back almost two centuries for a forester this Summer when he strolled through a 20-acre parcel of mostly virgin timber just south of Ithaca. Huge oaks, tall, stately tulip, poplar and basswood contrasted with the shimmering green of mast-like hemlock and white pine on the steep sides of Newfield Hill.

This tract belonged to Mrs. Floyd Murphy of Ithaca and was part of a farm on Route 13 purchased by her husband in 1929. The timber on the southerly two-thirds of the property had never been touched, except for salvage of the old dead chestnut. The northerly part had been lightly grazed and logged to some extent about 25 years ago, but still bears a good stand of timber. The whole tract averages 14,000 board feet per acre, with hemlock making up one-third of the volume.

This tract has just been sold to Cotton-Hanlon, Inc. after foresters and conservationists from Cornell had decided this forest would not suit the University's needs as an outdoor laboratory. This lumber company already holds some 20,000 acres for future timber growth, and is a co-operator under the N.Y.S. Forest Practice Act. The company forester plans to log the largest stems, and to practice group-selection in the thick hemlock stands rimming the steep ridges and bowl-like formations.

Trees—as shown in the accompanying picture—run up to near-record sizes. White pines and hemlock come to 40 inches, diameter breast high; tulip, poplar, basswood and pignut hickory to 36 inches DBH; hard maple and soft maple to 32 inches; white oak reaches 35 inches and red oaks up to 47 inches are to be found.

While it is regretted that this sample of the forest found by our pioneer ancestors could not be preserved, at least the forest cover is to be retained through good forest management by the new owners. — JAMES D. POND, *Consulting Forester*

Birds to the moon

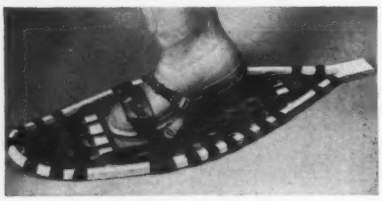
Folklore of many ancient peoples included some strange beliefs about bird migration. One common belief was that many birds flew to the moon each Winter. An English bishop advanced the proposal that large numbers of birds be harnessed so that they might carry some adventurer into outer space. Some writers advanced the theory that birds spent their Winters transformed into eels or other fish, each Spring changing back into normal feathers.

Early beaver season

This year New York will have its earliest beaver season in the Northern Zone since 1924, when the first experimental seasons were set after re-establishment of these furbearers. The season will be from December 1, 1958 to January 31, 1959. This special season is not in lieu of the regular Spring season contemplated for later.

Department biologists feel than an early season may help to secure a better harvest of beaver before the deep snow accumulations limit accessibility to the more remote areas. A better harvest is needed to keep the beaver population within the limits of its food supply and to relieve the increasing amount of flooding damage to timber lands.

During the past several years, low prices for raw furs has limited trapping activity to the point where adequate harvests have not been secured.



New 'shoe

The Indian developed the snowshoe, using a rough wooden frame and rawhide laces. Although the styles have changed from time to time, rawhide, wood and sweat have traditionally been the main ingredients. But a Gloversville man, Floyd Westover, has come up with a variation on the old theme—instead of rawhide he uses nylon reinforced rubber for the lacing and harness.

Several pairs tried out by North Country beaver trappers really stood the test without the usual deterioration of leather on hard snow crusts and in water. No varnishing and repair needed either. According to Floyd, wet snow doesn't ball up on them. We go for this, thinking back to the million trees we've kicked to get rid of sticky snow. This might make a good rig to walk around on those soft-bottomed marshes and streams where you can sink out of sight in ordinary boots.

Tennessee quail

Tennessee has discontinued quail stocking, according to recent reports, because the return to hunters failed to justify the expenses of the program. Based on the 3 per cent return of birds stocked, each quail in the hunter's bag was found to have a $33 price tag attached.

Worm machine

Put in a half dollar and out comes a package with live worms—for fishing. Vending machines dispense a variety of products from hot coffee to silk stockings and now a "wormatic" illuminated and refrigerated, dispenses live bait for the fisherman.

Lawrence honored

At the recent annual meeting of the American Fisheries Society in Philadelphia, Pa., W. Mason Lawrence, Assistant Commissioner for Fish and Game in the N.Y.S. Conservation Department, was elected president. Commissioner Lawrence's long background in fisheries work and his administrative experience in New York State will be most helpful in guiding the Society in both technical and policy fields. We are proud to have a New Yorker chosen for this important position.

Beats the band

Ducks can get into odd situations—and letters received along with identification bands often reveal curious circumstances. For instance:

A canvasback band return from Cayuga Lake indicated that the bird was banded in February and released. It was found on the same lake a month later "choked to death from overeating wild celery roots."

A wood duck band return from Athens, Ontario, Canada, had the following message appended: "I think duck must have gone into smoke stack on sugar shanty. When I finished sugarin' and cleaned the ashes from the arch, I found the band on a skeleton of a duck."

A scaup band return from Oneida Lake said: "Duck found with broken wing. Gave to neighbor who ate him, I guess."

Another scaup return from Hamilton Beach, Ontario, Canada was reported, along with this story: "Found oil soaked, given thorough shampooing by Society for Prevention of Cruelty to Animals and released."

Dyed ducks

In previous issues of THE CONSERVATIONIST, hunters have been asked to report observing or taking ducks that had been marked with colored dyes. Now, it is reported from Florida, where this marking technique was used on lesser scaup, that of 1,701 scaup trapped and dyed from 1954 to 1956, 103 have been retrapped. This return of approximately 5 per cent is normal and it can be assumed that dying had little or no effect on ability of the birds to migrate and to return.

What price biologists

Professionally-trained and experienced biologists continue to desert fish and wildlife conservation work for better paying positions in other fields. A recent survey reported on by Sports Fishing Institute revealed that the average salary for fisheries biologists paid from Federal aid, Dingell Johnson funds was $5,210 for 1957-58.

In Federal Region V (Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and West Virginia) the average salary for 65 biologists was $5,025; next to the lowest salaries paid for any of the five regions.

Moreover, this region had the dubious distinction of being lowest as to salary *range*, with a minimum salary of $2,952 and a maximum of $7,003.

End of the line

The California Department of Fish and Game recently took an unusual step in work of the Ocean Fish Habitat Development Project. Six old street cars, donated to the Department, were dumped off the Redondo-Palos Verde coastline in 60 feet of water to form an artificial fishing reef. The street cars, weighing some six tons each, were heavily ballasted to prevent shifting in storms. They were transported to the site by tug and barge.

Limited work in developing new fishing grounds along the Atlantic coast by disposal of construction rubble, old beer cases, etc., has met with encouraging success.

Jonah

In an effort to determine the result of an experimental planting of trout, numbered metal jaw tags are frequently attached to the fish. It is often difficult, for one reason or another, to pry these tags loose from fishermen who creel tagged trout. Here is an instance where the fisherman did co-operate but he had to pry the tag loose from another fish.

Nelson Pyne of Gloversville recently reported his catch of six tagged rainbow trout taken this Summer from Gilman Lake, Hamilton County. He also sent in a seventh tag, recovered from the stomach of a 25¼-inch lake trout caught in June, 1958. Mr. Pyne reports that the tagged rainbow trout was partially digested but it appeared to be approximately 11 inches in length.

Department biologists hope that the middle man's profit is not too great on these rainbows. Certainly they are growing well—they averaged 7.9 inches in length when stocked in April, 1958.

New role for rotenone

Use of rotenone as a fisheries management tool has increased tremendously during the past several years. The popularity of the chemical is a direct result of its acceptance by fishery administrators, biologists and sportsmen.

In general, it has been used for eradicating entire fish populations where trash fish have taken over or where over-populated situations required a new start.

Now, biologists with the Massachusetts Division of Fish and Game are developing methods whereby "selective poisoning" with rotenone can be accomplished. This stems from experience in the past where rotenone application in certain ponds gave only partial eradication. Subsequent investigation tended to show that rotenone was inactivated by changes in temperature and water density as depths increased.

During the year, most bodies of water are subject to a layering effect with colder waters as depth increases. Certain species of fish seek the layer that has the most satisfactory temperature for them. Trout go deeper as the surface water warms up but over-abundant pan fish and some trash fish remain in the warmer surface levels. By applying the rotenone at prescribed concentrations for the temperatures involved the biologists were able to selectively poison the over-abundant warm water species without harming the trout.

Dam the Connecticut

The Federal Power Commission is considering a request for a license to build the Enfield Rapids Dam on the lower Connecticut River. The proposed structure has a questionable ratio of benefits to cost.

The Connecticut State Board of Fisheries and Game representing Connecticut anglers presents a case against the dam proposal, backed with significant data on damage it will cause to the important fishing and recreational aspects of the river.

Such a dam would doom one of the more fabulous fresh-water fisheries in existence—the Connecticut River shad fishery.

Turn about

A survey conducted in Maryland located 159 black duck nests and 54.6 per cent of them were located in offshore duck blinds. In addition to duck use, nests of osprey, purple grackles, barn owls, barn swallows and English sparrows were found in blinds. In one blind, black duck, osprey and barn owls were nesting simultaneously.

Netting for lake trout breeders at Raquette Lake. Jiggling floats are good sign; mean fish in the net

Raquette patriarch

Tom Walker, foreman of the Lake George Fish Hatchery, does it again! During lake trout spawntaking operations at Raquette Lake in October, 1958, Tom coaxed another patriarch of the lake trout clan into his trap nets. This venerable specimen estimated as weighing 25 pounds and in its 21st growing season has an interesting history. Walker claims the fish thought the trap net was an underwater registration booth and was highly indignant for being detained 14 hours after discharging the duties of a solid citizen. (Kindly note that this denizen is old enough to register and vote.)

Our friend first came to notice in October, 1942, his fifth growing season, when he was netted and "branded" by removal of his adipose fin. Sometime between 1943 and 1951 he was recaptured in the nets and tagged but unfortunately he had lost his tag. On October 17, 1952 he was again netted, the lost tag noted, and retagged with No. 6300. At this time he was 31¾ inches long, weighed 13¾ pounds, was in his 15th growing season and the adipose fin showed no signs of regeneration.

Then this Fall, on October 14, his reappearance caught the boys with their scales down. But his weight was estimated at a conservative 25 pounds. This year he was in his 21st growing season. It was interesting to note that the adipose fin still showed no signs of regeneration.

Although the 1958 weight was estimated, Tom's guess is probably within a few pounds of the actual weight. Proggress of growth of this trout proves interesting: Between the 15th and 21st growing season, Mr. Lake Trout gained approximately 10 pounds. He made about the same gain in weight in the period 1952-1958 that he did in the period 1942-1952; not bad for one on the decline.

Wonder how many bucktails, spoons, wobblers, etc. this fellow has scornfully looked at or how many anglers he has "broke up" over the years.—ROBERT G. ZILLIOX, *District Fisheries Manager*

Career counselor

Fellow counselors at the Raquette Lake boys' conservation education camp refer to Dick Hilary of Sidney, as "a career Summer-camp counselor" — and so it would appear. This past Summer Dick completed his sixth year as shotgun, rifle and athletics instructor at the Department's Raquette Lake camp.

A physical education major at Cortland State Teachers' College and member of the football squad, Hilary began his Summer camp employment at the De-Bruce conservation camp in the Catskills as a Junior Counselor at age 16 and has been with the camp program for two months each Summer ever since. It is estimated that Dick has taught some 2,000 boys the fine art of safety afield with shotgun and rifle and qualified well over 90 per cent of them for their NRA and junior hunting licenses.

Basic qualifications for a counselor position at the boys' conservation education camps now, are that applicants must be male, single, New York State residents, at least 18 years of age and must be able to live and get along with teen-age boys. College students majoring in some field of conservation such as forestry, wildlife, fisheries, etc. are given preference in selection provided they have some instructional ability. Students from the State Colleges for Teachers have made excellent counselors, particularly those talented along such lines as firearms safety instruction, first aid, ornithology, trapping, camping, fly tying and archery. —STANTON ERNST, *Biologist Aide*

Antique nuts

Workers of the Union Lumber Company at Fort Bragg, Cal. uncovered a nest of acorns, perfectly preserved in the heart of a redwood tree. The tree's age indicated that the squirrel which hoarded the nuts lived before the time of Columbus.

A little outside in

Sometimes, wandering in the woods, we come across a jewel-like elfin landscape: Seedlings, tiny creeping vines and sprigs of greenery peeping through a cushion of moss—a scene of natural beauty the size of this page or smaller. On hands and knees, we gaze in wonder at its perfection and wish that we could have it, or its equal, for our own. Surprisingly, that is possible.

With a little care, such a gem can be transplanted into a terrarium or enclosed glass garden where it will thrive indoors. Or, more often, plants and other materials for these small-scale habitats are collected, bit by bit, on field trips. Some people do this as a hobby. The opportunities for variety—imitating wet woodlands, bogs, prairies, deserts, rocky glens or what you wish—are almost endless. In a schoolroom, terrariums are living demonstrations of water cycles, details of growth, and the adaptations and interrelationships of a natural community, which may be watched at close range.

The uses of a terrarium were accidentally discovered in 1829 by Dr. Nathaniel Ward, an English physician. He soon learned that, in spite of London's fog and smoke, delicate ferns and mosses would thrive in such glass gardens. After a few years, larger containers — now called "Wardian cases"—were used to keep plants healthy when carried to and from foreign countries, often by sailing ships on voyages that lasted many months. The humid atmosphere inside a terrarium is also well suited for the rooting of cuttings and for germinating seeds hard to grow.

Almost any clear glass container, from an ordinary mason jar up to a large show case, can be used. A rectangular acquarium, even a leaky one, makes a good terrarium. One of the simplest is a wide-mouthed gallon jar with a screw top, laid on its side in a frame to keep it from rolling. Other types can be made in a school shop. A half-inch layer of gravel, coarse sand or crushed stone, on the bottom, provides drainage and a reservoir for moisture. Over this, place about two inches of loam, damp but not wet, in which peat may be mixed and also a few pieces of charcoal to keep the soil sweet.

In a closed terrarium, if started with the proper amount of moisture, fine droplets condense on the walls and top until they fall and are absorbed by the soil. If the drops become large, the lid should be loosened until some of the water evaporates. The life of a terrarium is often ruined by molds which develop as a result of too much moisture. Further, these little gardens need light but direct sunlight may cause the plants to "scald." With a little pruning and sprinkling, they often last for years.

A wide selection of small native plants will thrive under glass. Slabs of liverwort and various kinds of mosses, growing on soil, make good ground cover. Tiny ferns, small violets, wild ginger, slips of ivy, or almost anything that is of the right size and strikes your fancy, can be tried.

Also a different type of terrarium, kept less moist, can be used to display the intriguing little pixie cup and British soldier lichens, with such dry land plants as the common cinquefoil or five fingers, and pussy toes or squaw tobacco.—FROM COOK COUNTY, *Nature Bulletin*.

Congress and conservation

The 85th Congress established an enviable record for passing constructive conservation legislation. This legislation promises to go a long way in strengthening the natural resources program. Highlights of legislation passed:

1. "Duck Stamp."—Increased (effective in 1959) the price of the Federal stamp from $2 to $3 and even more important, earmarked the resultant funds for acquisition of wetlands for waterfowl. *(See added note on "The $3 Duck Stamp," Pg. 41 this issue.)*

2. "Chemical Pest Control."—Authorized research by the U.S. Fish and Wildlife Service into effects of chemical pest control on fish and wildlife and provided funds for that work.

3. "Watersheds and Wildlife." — Amended the Watershed Protection and Flood Prevention Act to permit Federal cost-sharing and participation for fish and wildlife development along with watershed management work.

4. "O R R C."—Established a National Outdoor Recreation Review Commission to co-ordinate recreational planning in anticipation of future needs.

5. "Co-ordination Act."—Strengthened the Act to permit better planning for increasing wildlife values at Federal water control projects.

6. "Boating Act."—created a Federal Boating Act to assist in securing uniform state legislative action in water safety.

Quick turnover

Recovery of ear-tagged cottontails in West Virginia by hunters and records of rabbits taken in live traps indicated that of every 100 juvenile rabbits alive during the Summer, 52 were dead by their first Fall; 60 (8 additional) were dead by the second Fall; 92 (32 additional) were dead by the third Fall and nearly all were dead by the fourth year. The average longevity for cottontails in the wild was computed at 1.1 years.

Indigestion

Officials of the Wyoming Game and Fish Department, after examining contents of a 26-pound Mackinaw trout found dead on the shore of Middle Piney Lake, wonder if fish die of indigestion. Among the stomach ache material, the trout had eaten was a sizeable ball of monofilament line, several large lead sinkers, three spinners, one minnow hook, two regular-sized hooks and one swivel.

Shooting preserves

With increased hunting interest, the use of shooting preserves by the public has nearly doubled since 1955, according to the Wildlife Management Institute. The upswing is credited to the mounting needs of sportsmen, the tightening of public hunting in crowded regions and the increasing number of states with new laws for the establishment and operation of "pay as you hunt" areas.

In 1955 there were 756 preserves in 22 states and now there are 1,207 preserves operating in 38 states. Last year over ¾ million pieces of game were taken on preserves with pheasants leading in number and followed in order by bobwhite quail, mallard ducks (simulated pass shooting) and chukar partridge.

(Ed. note: See 'What About Shooting Preserves," this issue.)

New conservation stamp

Just before we went to press, we received the new, first class postage stamp dedicated to Forest Conservation. This is the fourth, and last, in the Post Office Department's recent natural resources stamp series. We commend the Department on its choice of theme and hope that the conservation stamp series will be continued in the future.

People, people, people

By the year 2000, we are faced with the prospect of supporting from our agricultural land twice as many people as there are today. In the United States the current rate of population growth is 8,000 persons per day. This country has added 23½ million people since 1950 and the projected estimate for 1975 is 228 million; for the year 2000—335 million!

There is no practical means in sight for getting our food supply any place or way except to grow it on productive land. The amount of good productive land in agriculture continues to shrink as new highways, factories, urban growth and other non-agricultural uses expand to meet the living demands of the growing population.

By the year 2000, land per person in the United States will be half what it is today. Conservation and improvement of our soil resources is urgent business. It is common sense to speed up our soil and water conservation programs if we are to maintain our standard of living.

The weatherfish

An unwelcome group of visitors from the Orient have made a mysterious appearance in Michigan. The visitors, a species of fish known as "weatherfish," were discovered recently in a pond in Oakland County while Conservation Department fisheries workers were chemically treating the pond to eradicate undesirable fish. Great numbers of the strange fish came to the surface.

The species has been identified as the Oriental weatherfish, a bottom feeder that frequently expels a jet of sand from gill openings—roiling the water and disturbing habitat conditions for other fish. The species reaches a maximum length of about eight inches and displays tremendous resistance to rotenone, the chemical most used to remove undesirable species or to reduce game fish populations.

Fish workers are concerned about how widespread the species might be, because its known characteristics stamp it as an undesirable occupant for our waters. The fish sometimes is used in gold fish culture and it is suspected that the species may accidentally have been liberated by a gold fish grower. Field investigations are planned this year to determine whether the intruder exists in other waters.

Little bears

At birth the cub of the black bear is about nine inches long and weighs six to eight ounces—only one five-hundredth of the weight of his mother.

Controlled burning

Controlled burning can be sometimes used as a game management tool for improving wildlife cover. A recent study in Arizona showed substantially greater browsing by deer on burned over units in comparison to unburned areas.

Apartments for ducks

Wood duck nesting boxes of the "community type" are being used in Vermont. The boxes are constructed in series, six in number, and erected upon a 2 x 4-inch stringer between two cedar poles. Galvanized funnel-type shields, 30 inches in diameter, on each pole pretty well eliminates mammalian predation. Utilization seems to remain high and in several instances five of the six units were occupied by nesting woodies.

Woodmen's field day

Thousands of people gathered at Tupper Lake in early August for three days of fun and exciting contests where husky lumberjacks, machine operators and tons of heavy equipment performed at the annual woodsmen's field day.

Lumberjacks demonstrated the felling and skidding of full-length trees to a landing, cutting them into log lengths, and loading them onto trucks for delivery to the mill. Horse pulling contests attracted outstanding teams from New York York, New Hampshire and Vermont.

A two-mile long parade featured choice Adirondack logs, logging equipment, forest products and forest industry while at the field, lumberjacks competed in contests of log chopping, tree felling, bucksaw, cross cut and chain saw events with competitive enthusiasm in the strength, skill and endurance required for such contests.

After a short address by Conservation Commissioner Sharon J. Mauhs, the Conservation Department's new "Otter" airplane demonstrated, in full view of the crowd, how it could pick up 250 gallons of water at the nearby lake in a matter of seconds and then, flying low over a "target," quench it with a deluge of water.— W. PETTY, *District Forester*

Nests for woodies

The wood duck is a popular game bird and the most colorful of the waterfowl in the East. It has been in somewhat of a plight because of the scarcity of favorite nesting places—tree cavities. Biologists, technicians, sportsmen and bird lovers have tried to help by creating artificial nest boxes—of wood or metal—but the problems of developing a satisfactory one have been many.

Raccoons, squirrels, snakes, rats and mink have been successful in raiding nest boxes, especially the early models. There is one instance listed in which predators destroyed wood duck nests in 21 out of 24 boxes.

To add to the woes of the wood duck and to those who build nest boxes, such things as starlings, white-footed mice and tree squirrels have pre-empted nest boxes for themselves. Even opossums have used the boxes as dens and bees have moved in and defied eviction.

Probably the raccoon has been the most predacious, pestiferous and resourceful. Against him many predator-proofing efforts have been made, now with considerable success.

First efforts at predator-proofing wood duck nest boxes were not too successful generally. The trouble was that something which was predator-proof in one place was open sesame in another.

The Illinois raccoon, for example, was thwarted when the size of the entrance to the nest box was limited to an oval three inches by four inches. The Massachusetts raccoon refused to negotiate a tunnel four by four inches in opening and 10 inches long, even though there were luscious duck eggs awaiting him.

The Maryland 'coon was different. That slightly undersized individual slipped through the tunnel easily and fearlessly and only a large one failed to get through the three- by four-inch opening. Then there were times when the 'coon which found himself impeded by the small opening in a wooden box merely chewed away at the boards until the opening was large enough to get into.

Suspending a nest box on a wire strung between two trees was merely a challenge to the raccoon which has a wire-walking technique all his own. Early efforts to stave off predation by erecting nest boxes on poles in ponds did not always deter predation. A sticky substance called "tanglefoot" applied to the trunk of a tree or a post had the tendency to discourage the fastidious 'coon but didn't stop an egg-hunting snake.

A cylindrical metal box attached to a tree by brackets was tried. When a flat-topped box was used it was noted that the squirrels often used the flat top as a landing field to reach the opening and get into the box; the raccoon with his long reach was often able to get a toe hold here and there and gain entrance. When a cone-shaped top was installed the top became a skidding ground instead of a landing field for the squirrel and he was considered conquered. But the raccoon merely anchored himself to the peak of the cone, maneuvered to the opening and pulled himself into the box. By use of a larger cylinder, longer braces and making sure that there were no spots which the raccoon could use for a toe hold, the metal cylinder was made into a reasonably predator-proof box.

Another technique which is proving successful is the use of climb-proof metal poles in open areas. Still another is to install a cone-shaped metal guard, small end upward, around the pole, tight enough to keep a snake from getting through and with a flare wide enough to prevent a raccoon from catching hold of the rim.

The latest ideas in wood duck nest boxes designed to give the conservationist the upper hand are described in Wildlife Leaflet 393, prepared by U.S. Fish and Wildlife Service. This shows diagrams of boxes which are proving successful, techniques for erecting the boxes and tips on maintaining them. The leaflet may be secured from the U.S. Supt. of Documents, Washington, 25, D.C.

Eager beavers

The Clymer Conservation Club in Chautauqua County put considerable effort in establishing a wildlife marsh behind their club house. The spillway is a substantial structure of reinforced concrete and raises the water level several feet to create some five acres of excellent marsh.

But no sooner had this spillway been completed and the water backed up to the desired level, than several enterprising beaver appeared to "improve" on the construction. Not satisfied with man's engineering efforts, the beaver decided to reinforce the dam and raise the water level even further.

When Club officials appeared on the scene several days later to check the spillway they were confronted by the beavers' rebuilding efforts as shown in the picture.

Bobwhite wanderlust

In recent years, Department biologists have been checking and rechecking areas in upstate New York, seeking release sites to use in the quail restoration program. Where climate, soils and cover looked just right, groups of 40 to 60 banded birds were released at each of several nearby sites.

Rechecks showed that at many of the release sites there was substantial agreement between the birds and the biologists; most of the groups settled down to stay. At other sites, although they even looked pretty much the same to the game men, the birds agreed it wasn't for them, and once out of the boxes, they just kept going. Along the way they left a record as accidents took their toll. It was not uncommon for some of the groups to move one or two, sometimes up to five miles before deciding to settle down.

But sometimes the biologists had the last chuckle. At least one covey moved in and stayed at a site long after the group originally released there had taken up permanent residence three miles away.

Currently, two young birds released this Summer in northern Columbia County hold the records for dispersal. Within six weeks after release, one had moved some 15 miles northeast before becoming a highway statistic. The other record-breaker chose a southwest direction and in two months' time had traveled 13 miles before also becoming a highway fatality. Somehow, during the interval, it had crossed the Hudson River.—C. Mason, *Game Research Investigator*

Ed. note: For more on this fine game bird, see "Can Quail come back?" in this issue.

Road kills

The numbers of birds and animals killed on the highways is noticeable to any observing motorist. Research work in Indiana shows that an average cottontail rabbit population along a highway will suffer a mortality of about 3 out of 100 with the greatest loss during the Spring breeding season. The study showed that game predators suffered even more heavily with a highway kill of 104 predators for each 100 dead rabbits.

Bone marrow

It is possible to tell whether a deer died of starvation by the color of the bone marrow. If the marrow is white, death was not by starvation. If pink to cranberry red in color, the animal starved.

$3 duck stamp

The price of the Federal migratory waterfowl stamp or "duck stamp," that all waterfowl hunters must have, has been increased from $2 to $3, effective July 1, 1959.

This increase will not only make more money available for the management of migratory waterfowl but changes have been made in the administration of the funds to allow for the majority of the revenue to be used for purchase or lease of wetlands. The administrative amendments also permit discretionary opening of up to 40 per cent of all Federal waterfowl refuge areas for hunting resident and migratory birds.

The previous legislation, involving the $2 fee, had many loopholes and in actuality only 13.7 per cent of more than $54 million collected since 1934 was used for land purchase. The greater share of the funds had been used for routine development, maintenance, research and administrative expenses.

The only use that now may be made of the special duck stamp funds, other than to obtain land, is to reimburse the Post Office Department for expenses involved with printing and handling the stamps. The Act also provides authority for the purchase and lease of potholes and small marshes in the northern Midwest—the major remaining waterfowl nesting grounds south of the Canadian prairies—in order to minimize the destructive efforts of pothole drainage commonly practiced in that region.

This should be a long step forward in saving the waterfowl areas that are being depleted so fast by drainage, pollution and development.

Otter foods

A study of otter food habits in Montana involved examination of 1,142 scats collected during September and October. Fish remains were identified most frequently—in 1,141 (99.9 per cent). Species of fish represented were sculpins in 1,055 (92.4 per cent) and trout in 224 (19.6 per cent). Stonefly nymphs occured in 461 (40.4 per cent) of all scats. Frogs were represented in 13, feathers in seven, hair in five and plant material in three.

Know your ducks?

Florida biologists recently conducted a spot check to see how many duck hunters knew how many ducks. Of 28 hunters quizzed about the ducks they had bagged, totalling seven different species, 19 were in error in identifying the birds in hand.

Tidewater pollution

The State Water Pollution Board has awarded contracts to two engineering firms for the purpose of obtaining technical information relating to flow patterns and sanitary qualities of the surface waters around New York City. Local, State and Federal agencies are co-operating in the program.

The engineering firms will survey the Atlantic Ocean from Rockaway Point to the East New York City line, the Hudson River from the Battery to Bear Mountain Bridge, the Lower East River, Harlem River and the Upper Bay and East Lower Bay. The State Conservation Department, by agreement with the Water Pollution Control Board, will survey Raritan Bay and the West Lower Bay.

The primary role of the engineering firms is to obtain data which the Water Pollution Control Board will use at hearings leading to classification of the waters involved. The work is being made possible with funds allocated under provisions of the Federal Water Pollution Control Law.

Worthy of note

The Galway Fish and Game Club in Saratoga County needed a club house, and on a ridge above Butterfield Lake were two old hunting camps. The Club acquired the camps and moved them on skids to a new location and reconstructed them for a club house.

During the remodeling a workman found the following carved inscription on a window sill: "4 deer killed in Fall of 1901." Further investigation revealed that several old timers in the Club could remember when the water of Butterfield Lake had been used as power for a sawmill and that each Fall men would come by horse and wagon to hunt deer from the camps. — Asa H. Smith, *District Game Manager*

Poacher's prospect

Poaching prospects were poor in the middle ages. Anyone caught killing a deer in the Royal Forest in England was liable to have his hands cut off at the wrists. This punitive measure might be varied by notching or removal of the ears.

These were penalties for minor offenses. If the punishment was to be drastic, the accused could be hung with his own bowstring.

Frog legs

Mrs. Geneva Lamore, Lyons, caught a five-legged frog while fishing and camping this Summer at Black Lake near Watertown. The frog has two front legs, three hind ones.

Violator

A trustee at Attica State Prison, Carl Holbrook, had an impulse and "took off" instead of tending cattle at the prison farm.

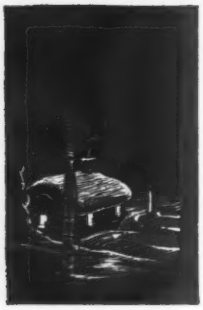
Three hours later, after a police net had been thrown around the area, he was picked up by State Trooper William Recktenwald and State Game Protector Gerald Sporer, the latter assisting because of his knowledge of the area.

Louisiana squirrels

It looks like some squirrels are a lot smarter than some squirrel hunters. Tagging records on a Louisiana game management area prior to the open hunting season showed that 93 squirrels were on deck. Hunters thought they had killed every squirrel on the tract when 14 were bagged. After the hunting season, to prove that many had survived, 20 of the tagged animals were retrapped.

Did you know?

Did you know that New York State has 2,300 lakes, ponds and reservoirs—that 375 of these have an area of about 0.01 square miles each, which if the body of water is circular in shape, would be a pool 600 feet across—that 78 of these have an area of one square mile or more, and that of these, four are partly outside the State's boundaries—Lake Erie is the largest with 9,910 square miles; Ontario is next, with 7,334 and Lake Champlain is third with 421, including islands—that Oneida Lake is the largest body of water wholly within the State with 79.8 square miles—that the name most frequently used for a pond or lake is "Mud," 71 times; "Little" forms part or all of the names of 60 lakes and ponds; "Long" is the name for 43; and "Round" is used for 32 bodies of water; that "Bear," "Beaver," "Cranberry," "Loon" and "Twin" are other common names; Neatahwanta, Tackawassa, Honnedaga, Chateaugay and Titicus are not so common names.



Letters to the Editor

Reflex action

Dear Sir: The article in the current issue of THE CONSERVATIONIST on spiders of New York interested me greatly. I have always felt these interesting creatures were not being given their due recognition for their usefulness and their unusual qualities.

Yesterday, as I conducted a field trip for our beginning zoology class, we came upon a golden garden spider on her web. As I attempted to pick her off with a pair of forceps, in order to show the class some of her secrets, she began to cause the web to vibrate back and forth, making it quite impossible for me to grab her. At first I thought the motion was due to the movement she made when I first approached her, and that the web would cease to vibrate in a short time. However, she kept up the motion for over a minute.

As far as I could make out, she made the web vibrate by pulling alternately on the web lines, first with her front legs and then with her rear legs. The motion was quite rapid, and was an effective one to prevent her capture until I chased her off the web. I have never seen or read about this action before, and thought perhaps Mr. Collins would like to hear of it.

John A. Gustafson, Ph. D.,
Associate Professor of Science,
State Teachers' College, Cortland

• *I was pleased that my article on spiders in* THE CONSERVATIONIST *prompted you to record some additional observations. A few weeks ago I observed the same phenomenon you described in a garden on Long Island; namely, the extremely rapid vibration of the web by a large mature female golden garden spider when disturbed by touching her. I have seen it happen also with other orb weavers, such as the shamrock spider.*

However, although your observation in itself did not surprise me, it prompted me to go through some of the available literature to compare other descriptions, and I was surprised to find so little information on this behavior and so little reference to it. The book, "The Biology of Spiders," by T. H. Savory, has a chapter on behavior in which the following statements occur under the headings "Reflex Action":

"When . . . the cataleptic reflex is called forth in the web-spider, when, as we say, 'the web-spider is frightened into shamming dead,' it simultaneously drops from its web. But it does so on a thread, and the silk glands must co-operate in the action and in the checking of the stream of silk after a certain fall. Other web-spiders react in another way, very familiarly shown by the common garden spider. They shake their webs into rapid vibrations by vigorous rhythmical jerks of their legs. This demands suitable co-operation of all the leg muscles and a proper timing of their contractions."

McCook and others mention some interesting points in connection with the reactions of spiders to the molestations and attacks of certain parasites, such as ichneumonids, and predators such as wasps. These observations, coupled with your observation that the spider started rapid web vibrations when you tried to pick her up with forceps so that you could not grab her, suggest that the activity may be a reflex defensive action against predatory attacks which could aid materially in avoiding parasitism. When the web itself is disturbed by a potential victim —a grasshopper, for instance—the spider rushes to the site and envelopes the victim in silk, but when the spider herself is attacked or disturbed, the reflex is entirely different, as you observed, and effectively confuses a possible enemy.—Donald L. Collins

Spider eyes

Dear Editor: I liked the story on spiders in a recent issue of THE CONSERVATIONIST but one interesting fact was not mentioned. The eyes of spiders—at least, of all the varieties I know—glow like precious gems when illuminated by a "jacklight" or an ordinary flashlight when the latter is held directly over the head like a "jack." The eyes of spiders come in all colors; some, in fact most of them, are similar to diamonds. Others are like rubies but brighter. A few seem to be blue, pink, or pinkish white.

Look for them after dark, flashing the light in the grass, in low shrubs or among flowers of any kind. I discovered this reflective ability of the eyes of spiders while "jacking" rabbits at night—legal here in Florida, where rabbits are not protected and may be killed by any means if doing damage. As one sees only a single eye in a rabbit and only one of the spider's multiple eyes, they can fool you. Some little spiders, smaller than a dime overall, have eyes that shine as red and a large as any rabbit's.

Stan B. Wade,
New Port Richey, Fla.

Food for thought

Dear Sirs: Do you have a map of Black Lake showing its depths? If so, I would like to buy one.

Also, where are the 40-acre shoals in the St. Lawerence River? How often does the average 30-40 pound "musky" feed?

I hope these questions don't inconvenience you too much.

Edward Miechowicz, Depew

• *I think I can bat .500 on the two questions you pitched about muskelonge in the St. Lawrence River. The first one is right down our alley. Forty-acre Shoal is located in Canadian water across the river from Clayton. It lies about two miles due south of Gananoque. For some reason it seems to be headquarters for a lot of muskies.*

I'm afraid I'll have to strike out on your second question. To my knowledge no one has enough of a personal acquaintance with any 30-40 pound muskie to say how often he is in the habit of feeding, and whether or not he represented the average muskie of this size would be even more of a puzzler. However, it can be said with some certainty that muskies in general seem to hit anglers' baits and lures best in the Fall of the year. October is a good month to try for the big ones.—Donald G. Pasko, District Fisheries Manager

Ed. note: We sent Black Lake (the map); that, and maps of many of New York's lakes are free on request.—Editor

The Meylan saw

Dear Sirs: I am in the process of pruning a spruce plantation and I would like to purchase a Meylan saw, pictured in the August-September CONSERVATIONIST. Could you advise me where it is possible to do so?

L. H. W. Cure, Berlin

• *We are very happy to advise you that the Meylan saw may be purchased from the Bartlett Manufacturing Company located at 3003 East Grand Blvd., Detroit, Michigan. The Bartlett catalog lists the Meylan saw under the number of No. M-414.*

However, we understand that the Albany Hardware and Iron Company is the local agent for the Bartlett Manufacturing Company; and we would, therefore, assume that you will be able to purchase this Meylan saw from the local Albany concern.—C. D. Kingsbury, Superindent, State Forests

Just lucky, I guess

Dear Sir: One day about 6 a.m. this Summer, we were awakened by a noise in the living room chimney. I got up, and because the damper was closed, only heard a thumping and banging noise. Right away we thought of squirrels because of a recent visit when the damper was open. As we didn't want another frightful scene, we awaited the arrival of a nearby neighbor.

We opened the damper full wide but nothing appeared so up on the roof my neighbor climbed and dropped a gallon can down, which was tied on to a rope, and out came a female wood duck.

I gave the duck to my friend so he could feed it and then release it.

A week passed and my son and I went up to see the duck and what a shock we received. In the screened enclosure was a 5-foot black snake, its mouth fully extended and the entire head and neck of the duck in its mouth. We yelled and beat the ground and out popped the duck none the worse but very wet. The duck was then released and flew away.

Do you suppose the snake would have swallowed him whole?

Les Thompkins, Putnam Valley

P.S. Yesterday telephone men working on my property killed the largest copperhead snake I have ever seen in the valley. It was 39 inches long.

• *We know of one wood duck that's going to steer clear of Putnam Valley from now on. —Editor.*

Egg-eater

Dear Sir: A recent letter to the editor recounting an experience with a snake and a rabbit brings to mind an interesting experience of my own.

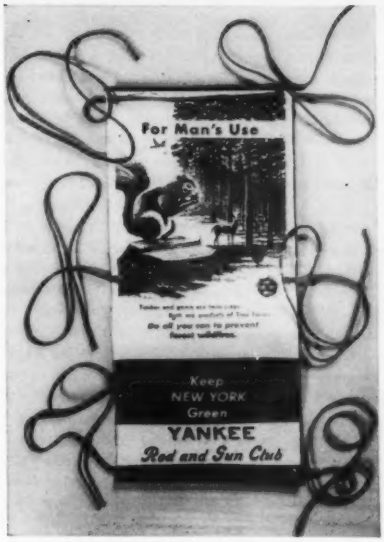
A few seasons back, I was fishing a small feeder stream of the Neversink River with a friend from Alaska when he called me over to see a large blacksnake he'd found. "Shall we kill it?" he asked. "No," I replied. "They're beneficial snakes, although I've heard that they sometimes eat game bird eggs."

It was only about ten minutes later that I heard a commotion in the brush across the stream and went over to investigate. A grouse flushed from behind a big hemlock and there at the foot of the tree was her nest with nine eggs in it—and a blacksnake with one egg making a bulge in the snake. Mamma grouse had obviously been trying to protect her unhatched chicks. This snake I killed and opened to examine the egg. It was within a day or two of being ready to hatch.

I returned to the nest a week later and the evidence of broken eggshells indicated that the remaining nine chicks at least got a start in life.

It is not often that one sees this sort of small wilderness drama . . . and an unusual coincidence in view of my comments when the first snake was seen. Blacksnakes are undeniably mostly beneficial, but in this instance I felt that the grouse were of greater value than the snake.

Dorian St. George,
Shaker Heights, Ohio



Trail blazer

Gentlemen: Enclosed is a sample of a project that the Yankee Rod and Gun Club is going to carry out this coming hunting season. We call them "The Yankee Rod and Gun Club Trail Blazers," and thought your Department would be interested in knowing about it because it could be possible some of your wardens and rangers may run into these posters in remote spots and wonder where they came from.

As you can see we enlarged the "Keep Green" stuffers that are distributed by the State University College of Forestry, Syracuse. Our plan is to have our members carry a few with them on their hunting trips and post in remote spots where they see fit. The purpose is to get forest fire prevention reminders into the deep spots where very little other posting of this nature is done because of location.

We asked the University for permission to have these items copied and Ralph G. Unger referred us to the American Forest Products Industries, Inc., 1816 N. Street, N.W., Washington 6, D.C. from whom we got permission to copy these items.

It might well be that in the future we will carry this type of campaigning on further to include good farm relationship posters and hunting safety posters.

We honestly think this project has value because if just one cigarette or match gets trampled into the ground a little deeper than the ordinary we feel that we have been helpful in conservation.

Bob Haugen,
Yankee Rod and Gun Club,
Levittown

Forest practice

Gentlemen: I noticed an item in the Aug.-Sept. issue of THE CONSERVATIONIST, where it mentioned a co-operator under the Conservation Department Forest Practice Act. It stated that an owner of property, having a woodlot, had it marked and estimated by a forester who sent the volume computation along with a list of profitable buyers to the owner.

My family owns about 145 acres in Hamilton County, 100 of which is wooded. We are thinking of disposing of the 100 acres and would like further information about the Forest Practice Act.

Your magazine is most enjoyable and informative to anyone interested in conservation and outdoor life. It covers subjects not found in any other magazine devoted to the outdoors. You are rendering a great service to our State by publishing it.

Lawrence E. Kennedy,
Lyndenhurst, N.J.

• *Thank you for your letter of September 12th, inquiring about the services available to woodland owners under the Forest Practice Act; also for your compliments on the quality of our magazine. We are grateful for both.*

Let me say it gives us heart when someone like yourself, especially a non-resident owner, has enough interest in his forest property, to seek professional assistance. Yes, our foresters are available upon request and without charge, to inspect private woodlands and to make recommendations aimed toward a continuing harvest of forest products from the area.

Should you desire these services, we ask that you become a co-operator under the Forest Practice Act. This is done by signing an agreement with the State, indicating your intentions to manage your lands according to accepted forestry principles. Such an agreement is purely voluntary and may be terminated by the owner at any time. It is merely evidence of your good intentions and your interest in forest management. After becoming a co-operator, if merchantable timber is to be cut, the individual trees will be marked by the forester and the owner will be given an estimate of the marked volume by species, so that he will know just what he has to sell. A price range will be given the owner for each of the various species, to give him a bargaining base in negotiating a sale of the marked timber. We recommend that such sales should be made by written contract to protect both parties. A sample of such contract is available from the forester.

In young stands in need of thinning and improvement cutting, the forester will mark a sample area as a guide for the owner, and he may be able to suggest a possible market for the thinnings, depending on their proximity to such markets. If reforestation is contemplated, recommendations as to the proper species and spacing and the procurement of seedlings will be a part of the overall plan for the management of your property.

If, however, you have no desire to retain ownership, our foresters cannot appraise your property for possible sale. They will furnish a list of consultant foresters who may be engaged by you to make such appraisal. As you are a non-resident owner, you may wish to investigate the possibility of employing a local consultant to manage your property for you. — E. H. Huber, Supervising Forester

Cucumbers and chestnuts

Dear Sir: Enclosed find one branch of leaves that I am very curious about. I don't believe I have ever seen anything of this nature in the woods before.

The tree is about 6" in diameter and at least 50' high. Some of the upper leaves are much bigger than these.

The tree is on the property of my brother in Gowanda and stands alone in quite dense beech, elm and tulip.

My face will be red if it's a common variety.

The bark looks almost the same as ironwood, yet the wood and bark snap off like one would break a match stick.

All the leaves grow in three. Will be looking for your answer on this question.

M. W. Harvey, Tonawanda

P. S. While in Suffern last week I saw a beautiful chestnut branch with two large well filled burs. A fellow brought it in Reinaver's garage station and wanted to know what it was. Said he got it somewhere around Sloatsburg back in the hills and that there were quite a lot of them.

Thought you might like to know about it.

• *From the evidence at hand, it appears that the tree in question is that commonly known as the cucumber tree, or scientifically as* Magnolia acuminata. *I don't believe your face should be red, as this can hardly be called a common species. Gowanda lies in the northern limits of this species' geographic distribution in the State. It is generally found on moist, deep, fertile soils in combination with ash, beech and yellow poplar to the south and west where it grows in greater abundance.*

As for the chestnut burs you mentioned, they are no longer a rarity. Each Fall we receive numerous reports of the "discovery" of a "blight resistant" chestnut. Actually, there is no scientific evidence that a truly resistant tree of the native species exists. What has happened is that sprouts develop from the stumps of blight-killed trees and these in many instances, reach a fruit-bearing age before they succumb to the disease. Perhaps some day, and we hope before the millenium, the hoped for miracle will occur and our forests will once again be graced with this most desirable tree.—E. H. Huber, Supervising Forester

Garbage and water

Dear Sir: I would appreciate it if you could supply me with information on the following:

1. Is there a law (or laws) which prohibits the dumping of garbage and cans in State waters? I refer specifically to the St. Lawrence River, which, in my opinion is one of the most beautiful bodies of water in New York State. I have fished here for many years, and have seen the garbage and floating beer can situation get progressively worse. I have seen areas such as around King Point State Park (Goose Bay) where at times the floating cans and bottles present a serious nuisance to motor boats, and decidedly clutter up the surface (and bottom) of an otherwise ideal fishing spot. This garbage I have seen dumped not only by campers, fishermen (?) and river boats, but also by the "natives." Because I have a cottage in this area, I know that it is not necessary to dump garbage in the river. There are local dumping grounds available, and Alexandria Bay also provides a town dump within easy reach. If there is a law—State, county or otherwise—to prevent this, how can it be enforced?

I have seen similar situations in New Jersey lakes, but in many instances the situation has been cleared up by posting and indicating fines of up to $50 for violation. I also believe that this was done (perhaps it still is) on Lake George and other lakes in New York State.

2. What, in your opinion, has been the cause of the extremely low water in the St. Lawrence River? It was bad last year, but most people thought the water level would rise in the Spring. However, this Spring and Summer the water was lower than in 1957, and it appears to me that it is now even lower than it was in September.

I don't believe, as many people do, that this can be due to the Seaway project, but it has presented some hazards to boats (especially those unfamiliar with certain shallow areas). Even more serious, to me at least, is the difficulty now existent in landing a boat due to weed formation and rocks along shore.

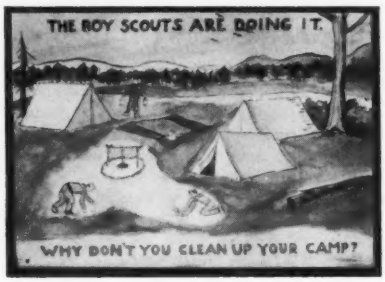
If there is an answer to the above, especially in regard to dumping of garbage, I would appreciate hearing from you.

W. C. Naumann, Hanover, New Jersey

• *As a reader of* THE CONSERVATIONIST *you must know that we see red — or maybe I should say redder—as a consequence of the slovenly habits of people in disposing of garbage and trash in our waterways. We are a long way from a satisfactory solution to this problem but I do think that we are making headway.*

Some of the headway is being secured under Conservation Law amendments which have recenty been broadened to prohibit the disposal of garbage or any foreign material in the waters or on the banks of trout streams. Such legislation, however, does not extend to all waters and certainly not to the St. Lawrence which, to further complicate the picture, is an international boundary water. However, on the St. Lawrence, regulations of the New York State Power Commission and the Ontario Hydroelectric Authority are quite specific, I think, in striving toward the prohibition of pollution in waters under their jurisdiction.

Water levels of the St. Lawrence would be controlled largely by the Great Lakes which it drains. Lake Ontario, last in the chain, reflects such a drop this year; water levels have been so low that many cottagers have been unable to get their boats into their usual moorings.—Editor.



Contest

Dear Editors: Each year *The Conservation Forum* offers awards for posters relating to conservation of natural resources. The poster contest is open to pupils of the entire State from grade 5 upward. In a number of classes, usually seven, awards of $3, $2 and $1 are made at our annual School of Conservation in May. The winning posters are displayed in the Buffalo Museum of Science during the month of May, after which they are available for borrowing. Many have been used in exhibits at flower shows and at statewide meetings.

Posters may deal with any phase of conservation of resources and may be in any medium. They must measure, including mount, 18 x 24 inches. They will be judged on design and execution, effectiveness of the conservation message, originality and suitability for black and white reproduction. Rules and entry blanks will be forwarded on request. There is no entry fee. The awards are made possible by voluntary contributions of members of the Forum as a means of encouraging interest in conservation.

Mabel H. James,
Conservation Forum,
Holland, New York

Old bird

Dear Sir: Re the letter of Howard Ballway about the "tame" partridge in the August-September issue of THE CONSERVATIONIST.

Harold Walker of Clintondale, in Ulster County, took his tractor into an orchard thirteen years ago and a male partridge flew out of the nearby woods and perched on the machine, riding for some time. This happened every time the tractor was taken into that section for the next thirteen seasons. Is that old for a partridge?

When a contractor took a bulldozer into the lot the bird flew at it, pecking and thumping it with its wings. On occasion it has landed on the heads of the workmen and pecked them. Early this Summer it disappeared and has not been seen since.

Bill Upright, Highland

• *Yes, that's old; especially for a partridge that rides tractors and fights with bulldozers. —Editor*

Launching sites

The Editor: Referring to your article, "Boat Launching Sites—A Progress Report," in THE NEW YORK STATE CONSERVATIONIST, issue of April-May, 1958, it would appear that you and your Department are particularly proud of the ramp at Sucker Brook inlet, Canandaigua Lake since it was pictured and given top billing in the text as well as honorable mention in the preceding article.

I am sorry that I am unable to share your apparent enthusiasm. As an outboard cruising enthusiast, I ventured a weekend trip to Canandaigua Lake Labor Day (1957). I inquired locally and was directed to the ramp at Sucker Brook inlet. I managed to negotiate the approach road only to find that the facility was entirely and completely inadequate; no, impossible to use. The inadequacies are: 1, An extremely hazardous approach; 2, exceedingly difficult maneuvering area; and 3, inadequate parking space in terms of length. The impossibility was the ramp itself! The horizontal plank platform broke sharply down at such an angle that I absolutely could not use it because: 1, My trailer would have hung up solidly on the break in the ramp; 2, I would have been unable to pull the loaded trailer out on such a slope even had it not hung up; and 3, the ramp ended with a large timber several inches above the water making it impossible to launch or to retrieve the boat.

Other than that, things were just fine. Needless to say, I did not use the ramp.

My outfit, fairly typical of outboard cruisers, consists of a 19-ft. outboard sedan cruiser mounted on a 21-ft. trailer constituting a registered gross weight of 2,500 lbs. in cruising trim, towed by a station wagon with nearly 200 HP. I do not consider my outfit to be unique nor inadequate for the purpose. In fact, after further local inquiry, I was able to find a county park pebble beach on the east side of the lake at which I was able to launch and retrieve with only moderate difficulty in spite of the very shallow water.

May I raise my voice and ask that, if launching ramps are to be built to encourage the relaxing recreation afforded by leisurely cruising, they be made adequate for the purpose?

Please let's build facilities which will encourage the steady, going cruising families as well as the hotrods and the fishermen.

Richard H. Woodward, Past Commodore,
Braddock Bay Boat Club, Rochester

• *With respect to the Canandaigua Lake site where you were unable to launch your 19-foot outboard sedan cruiser, we agree that it is not completely adequate to provide for launching larger boats and cruisers such as yours. We are, however, proud of the fact that this site was the first of such facilities to be developed by the State for the parking of fishermen's cars and trailers and the launching of their boats on good fishing waters.*

Your criticism of the ramp is justified with respect to larger outboard cruisers and your comments are appreciated as we have much to learn in order to provide a ramp not only for the small boats of fishermen whose license fees are making such areas possible, but also for the larger boats in the trailer borne variety.

Subsequent ramps built at other sites have varied in the degree of slope, the type of launching area, and other facilities to help find out just what is most suitable for everyone concerned. The beach launching area at the Three Mile Bay site, shallow plank ramp at the Shackelton Point site, and the newest idea at Auburn where prefabricated concrete ramps are now available, make it clear, we think, that we are genuinely interested in providing a launching area that will be suitable for all types of car top or trailer borne craft. We are very hopeful that the answer has been achieved at the Auburn site and we cordially invite you to try it, and welcome your constructive criticism. The 10- to 15-degree slope has proven most satisfactory to date.

The parking space, in terms of length, has proven adequate in all cases. Yours is the first such complaint we have received. An area 85 feet wide is provided for your car and trailer, including a road on either end for turning in or out with no backing up necessary at any time except when maneuvering down the ramp. A car and trailer of the ordinary variety, in most cases, should not exceed 45 feet, which leaves a 20-foot roadway at either end of the parking area, as mentioned above.

As more funds are made available for this important program, we hope to have many more such sites, as well as a face-lifting on some existent sites.—Maurice B. Otis, Supervisor of Stream Improvement

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The unwise owl

Dear Sirs: It may be of interest to recount to you an event which astonished me during my vacation this Summer.

The bass had been feeding well, during the dusk of evening, in Deering Reservoir near Hillsboro, N. H. Thus, I had found that casting toward shore from my boat was productive of strikes if not of captured fish. One evening, I was occupied in this pastime at a period when the sun had nearly disappeared from the sky. I was using a "crazy crawler" and beyond a dozen feet it was dark enough to make this decoy nearly invisible. Suddenly, as I was retrieving the lure, I heard a soft rush of sound and saw a dark shadow descend into the water. Instinctively, I reeled faster. I then perceived, ten feet away, a barred owl, with the fishing lure firmly clutched in his talons. He had wings outspread and was attempting to maintain his equilibrium on the water. He remained in this position several minutes while I gazed at him in astonishment and he ogled me in what appeared to be a puzzled expression. Finally, as I reached point three in my silent debate about how I might free him without sustaining bodily injury, he released his prize and silently flew away into the neighboring pine forest.

I've recounted this story to my close friends, only, and even they look at me with disbelief. My courage to write you about this event is brought about by my opportunity to see the cover of the June, 1958 issue of *Florida Wildlife*. Here is depicted, by a painting by Wallace Hughes, the same situation I have related to you.

Ralph F. Jacox, M. D., Rochester

Friends of the night

Dear Sir: Have just received the August-September issue of THE CONSERVATIONIST. Referring to "The Common Skunk" beginning on page 5: While I have never seen any of the pictured evidences of skunk visitations (page 4) I feel that I have learned a lot from the pictures and the text; enough to enable me whenever I can visit a cornfield where damage has been done to determine "who dunnit." But my main interest in the article stems from my own personal experiences just a few years ago up in Stony Creek in Warren County. What happened then supports the opening paragraph wherein it is stated, "The common striped skunk is a good natured animal."

I was staying at a relative's place during a Summer vacation and undertook the photographing of raccoons and skunks at night when they came to visit the garbage pit some distance from the house. My first try concerned only the 'coons. I was extremely cautious, and so were they. The resultant shots were nothing to brag about. On the next try I was careful but not so cautious. The 'coons sensed my different mood and met me halfway, being less cautious themselves.

The third try was in early evening when twilight was gathering. Raccoons don't appear until darkness has come in earnest. But the first rustle in the blackberry bushes close by drew my attention. A skunk appeared, stopped to look me over, then went about his business of hunting scraps from the pit. The picture wasn't a good one, maybe because I was too timid.

But I tried again on the following evening. I sat down on a beverage crate before twilight had begun and waited. After a while one skunk came, then another, then another until there were five in all. They ranged around the edge of the pit, salvaging pie crusts and the ends of chicken wings and ham bones and bacon scraps. Then the 'coons began to arrive. There were five of them, also. I used a two-cell flashlight to focus the camera. Unfortunately, I forgot to douse the light before shooting so that the pictures all showed a moon-spot. But the remarkable thing about the experience is this: None of the animals paid the slightest attention to the flash bulb. I shot several pictures and during that time the skunks passed so close to me that I could have brushed their fur with my finger tips had I extended my arm full length. A young fox came suddenly on the scene while this was going on but departed almost instantly. He was the only animal to show mistrust.

My sister-in-law once had daily visits from a skunk that lapped milk in company with a house cat, both feeding from the same saucer.

Ben Ferguson, Yonkers

Dilemma

Dear Sir: The other day a State forester visited my farm near Alcove Reservoir, Albany County to determine the condition of the 10,000 forest seedlings I have planted, in what was to be the first step in a reforestation project designed to convert 50 acres of idle, eroded land on steep hillsides and abandoned pastures to the purposes of protecting the watershed, improving the soil, and providing timber for the future.

The forester found evidence of extensive deer damage to a young plantation, and because of the abundance of deer in this area predicted future trouble. The deer are now so numerous that my neighbors and I often see them in the fields, gardens and orchards adjoining our homes, and many have been killed on nearby roads.

I am writing to determine what might be done to minimize the damage caused by the deer. Evidently Nature will not take care of the problem, since the heavy winterkill did not visibly reduce the size of the herd. My neighbors tell me to protect my crops and trees by posting the land to keep the hunters out, and to keep a pack of dogs to keep the deer out, but these measures do not appeal to me. I'd like to have my land used to its fullest capabilities and this includes affording shelter for wildlife, and for offering recreational opportunities to sportsmen as well as putting idle land to a useful purpose by means of reforestation.

I should appreciate any suggestions you might have to offer that would allow me to accomplish these goals.

Owen France, Feura Bush

• *With regard to extensive deer damage to your young conifer plantation, the Conservation Department is, so to speak, in the same position as a fire department that arrives at a blaze with good equipment and fire control knowledge only to find there's no water available. We have the knowledge of how to suppress the damage and a law that would permit it, but as long as your neighbors' lands are posted and the property around the Alcove Reservoir is a refuge for deer there will be extensive damage to your young plantation of conifers.*

We could recommend deer repellents, but like the fire department whose chemical tank was too small, deer detering chemicals will not last long enough. Dogs would stop some of the damage but they would have to be on a chain. And like the fire department with inadequate hose, the dogs' chains would be too short. Deer soon would learn the dogs have limited freedom.

Like the fire in the building, deer will probably destroy the Scotch pine. Should you plant again where the deer population might not be adequately harvested I would suggest planting spruce and/or larch. In a neighborhood where the deer population can be managed Scotch pine and red pine might be grown but even these may be damaged on south or southwest facing slopes if deer tend to concentrate there in late Winter.

Neither we, nor, I am sure you, want to kill all the deer, nor is there that need, for populations of deer can be managed by adequate harvesting so as to provide continued deer hunting yet, permit valuable timber trees to grow.—C. W. Severinghaus, Leader, Big Game Management Investigations

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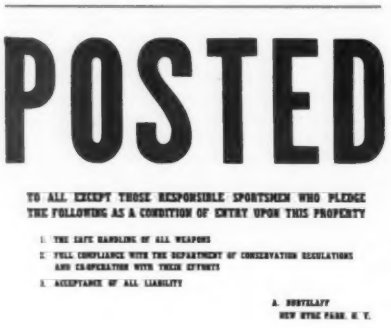

POSTED
TO ALL EXCEPT THOSE RESPONSIBLE SPORTSMEN WHO PLEDGE THE FOLLOWING AS A CONDITION OF ENTRY UPON THIS PROPERTY
1. THE SAFE HANDLING OF ALL WEAPONS
2. FULL COMPLIANCE WITH THE DEPARTMENT OF CONSERVATION REGULATIONS AND CO-OPERATION WITH THEIR AGENTS
3. ACCEPTANCE OF ALL LIABILITY
A. BURTZLAFF
HYDE PARK, N. Y.

Psychology

Dear Sir: Hunters who may happen upon these posters in Southern Albany County will, if they bother to read them, discover that they differ from the vast majority they have encountered afield. They do not prohibit entry, if certain reasonable discipline can be assured. Safety—compliance with Conservation Department efforts—and good sportsmanship are simple but necessary requirements.

The reaction, if it follows the intent of the owner, will be a meditating pause followed by a sequence of grey matter activity. This should start with a rapid self-appraisal and end with a self-qualification. During this process the inner man senses the obligations called for and, augmented by the power of appreciation, guides the conduct of the individual. This accomplished, we have a considerate guest hunter on his best behavior. He should be welcome anywhere.

It may or may not work out this way and I know there are many that disagree but I hope there are others who would join me and be willing to share their property. I am sure they will enjoy their hunting more when they step off of their own land and onto State-owned or other private property, if they have not forbidden their land to others.

We all owe so much to our great natural heritage and to our own Department of Conservation for its exemplary management of our natural resources that we cannot afford to take our privileges too much for granted. The spirit that made all of this possible should never die.

Arthur A. Burtzlaff, Hyde Park

A lady's prerogative

Recall the little lady from Fort Edward who wanted to be a lady conservationist (CONSERVATIONIST, *Aug.-Sept., 1958*)? *Here's the latest from our upstate pen pal.—R. B. M.*

Dear Rollie: Last Sunday, the 19th, our Youth Fellowship went on a hike to Colfax Mt. When we were going up to the tower, I could go only to the 6th flight of stairs, and there were 12 flights of stairs, So I don't want to be a lady forest ranger. I got so dizzy, I had to go down.

I haven't written because my 7th grade homework has kept me writing. In science we are studying about conservation. Could you send me some material on conservation?

Last Saturday, the 18th, our science class went to a tree nursery just outside Saratoga. After that we went to a fish hatchery in Fortsville or something like that.

Oh, I forgot to tell you, I'm in 7-2 which is pretty smart.

Judy Huffer, Fort Edward

Northern pike

Gentlemen: During the first week of October, two friends and myself fished Upper Saranac Lake, Rollin's Pond and Paradox Lake for great northern pike. As expected at this time of the year, the lily pad beds were considerably thinned out. We also noted that underwater plants outside but adjacent to the lily beds were deteriorating and brown in color.

Although we took some fish in deep water, we did not have any hits in the areas we thought would be sure producers; i.e., off the edge of lily pads.

On our last day, we were told by a native old timer that pike will not frequent the lily pad beds once the cycle of deterioration gets under way.

We would like to know if this is true and, if so, what is taking place to cause the pike to move out. As the big fellows are fun to catch, any information that you may furnish will be appreciated.

F. Peters, Cannondale, Conn.

• *In general, I believe your observation concerning the northern pike will find agreement among anglers who pursue this species. During the Summer months the northern pike is certainly partial to a weedy habitat in rather shallow water. However, as the water temperature cools and the plants begin to wither and die, the pike distributes himself more widely in a given body of water. W. C. Kendall in a 1917 publication makes the following observations "The northern pike chooses its Spring and Summer haunts by preference in shallow inlets with weedy bottoms and shores overgrown with reeds and rushes. Towards Autumn this fish betakes itself to precipitous, stony shores, which it again forsakes when Winter is at hand,"*

Colder waters and dying acquatic plants, the latter making for less shelter for both pike and its prey, the former possibly making for increased activity in the northern pike might account for the autumnal shift in this species habits. During the warm Summer months the northern pike is generally found above the thermocline; at other seasons of the year it can be found in deeper water.

Much has been written about the northern pike over a period of years. Possibly the most numerous references concerning this fish can be found in Carlander, "Handbook of Freshwater Fishery Biology." Pages 113-122 list a series of publications in the literature cited section for waters over the entire United States and Canada.—Robert G. Zilliox, District Fisheries Manager, Adirondack Fisheries District

Hard to swallow

Dear Sir: On June 26, 1958 at about noon, during a slight rain, William Hammersmith, a New York State trapper, and myself observed several snapping turtles on Copeland Pond, Town of Fort Ann, Washington County, trying to catch swallows, who in turn were trying to catch bugs just above the water.

The turtles would float on the surface and when a swallow would come near they would run their necks out about a foot and jump so that at least one-third of their shell would be out of the water.

We watched them for about a half hour but did not see them catch any swallows, but they were sure trying when we left.

If we had had a rifle there would have been several less turtles on Copeland Pond.

John A. Brooks,
Game Protector, Whitehall

Raquette trout

Dear Sir: Perhaps one of your staff can shed some light on what, for me and my fishing companions, is an unhappy state of affairs.

For the past 30 years we have been fishing Raquette Lake shortly after "ice out" for lake trout, and until the past three years we have always caught enough trout to enable us to term the trip successful. However, the last three years we have drawn a blank, or close to it, and so have the majority of other fishermen there at the same time. Also results over the full Spring fishing period, which we follow closely, have been for the most part negative.

Our method of fishing has always been on the surface, with streamer flies, flatfish, etc., as we seem to get the most enjoyment on a flyrod with the two- to five-pounders which constitute most of the fish caught there. Always before we found we could catch as many or more fish with this method as the traditional copperline fishermen brought in, and for quite a few years we had this method pretty much to ourselves. However, this changed about six or seven years ago, and we started to see a lot of light tackle such as we were using.

They tell us that the netters have been bringing up as many fish as always when they net for spawn in the Fall. If that is true I should like to know where they go in the Spring. They sure aren't where they used to be.

Thanks for any information you may be able to give us which would explain this condition.

Larry Judd, Rochester

• *I wish that I could list in one, two, three order, the reasons why surface fishing in late years has not proved successful in Raquette Lake. Unfortunately this is not possible. One must delve into the realms of speculation on this one.*

Certainly there is a reasonable population of adult lake trout in Raquette Lake. Our Fall spawn-taking operations continue to show this. Stocking throughout the years has been an annual event. Perhaps we should start our speculation with your sentence: "They sure aren't where they used to be." This can easily be followed with: "Maybe they still are there, but—."

Incidentally "ice out" conditions on Lake George (another lake trout favorite) this this year was followed by many lakers visible on the surface of the lake for a week or two. Schools of large trout were to be seen, with most anglers reporting negative results after trying everything but the tackle box in attempts to creel these fish. These trout were so persistently surface-minded that many interested anglers mistakenly thought them to be sick or dying.—Robert G. Zilliox, District Fisheries Manager, Adirondack Fisheries District

Credits

First cover, pages 24, 25, 28, 29, 30, H. Wayne Trimm; second cover, Leonard Lee Rue III; 2, 3, Earl Holm; 5, 16, 33, LeRoy Irving; 6, 7, 14, 15, 20, 21, 37, Nick Drahos; 8, Mark Greene Studio, Saranac Lake; 10, 11, S. V. R. Simkins; 13, 31, 36, Earl McGuirk; 17, 18, Division of Parks; 19, R. G. Zilliox; 22, Drahos, McGuirk; 27, A. C. Petty; 32, Louis Agassiz Fuertes, Irving; 35, James D. Pond; 38, Stanton Ernst; 39, McGuirk, Wm. Petty; 40, James Kelly; third cover, Clayt Seagears; fourth cover, N. Y. S. Museum.

Thanks

Dear Sir: I think a few words of appreciation are in order to the Conservation Department and particularly to the Rangers on the islands in Lake George for their courtesy and helpfulness. Our family outings have been most pleasant, thanks to the suggestions and efforts of these Rangers.

Clarence Livingston,
South Glens Falls

Derby

Dear Sirs: The Lions Club Fishing Derby at Outwater Park wading pool in Lockport was held on schedule September 20th. Altogether 450 kids participated and I am happy to say that the fish bit very well and approximately 350 were caught during the contest. I am enclosing herewith a picture which may be of interest to you.

After the contest we left the remaining fish in the pool for six days and adults and children had themselves a wonderful time, the fish continued to bite and seemed to grow more lively and accustomed to their environment. We found that the rock bass, calicos, sunfish and bullheads hit very well, perch fair, the only two northern pike we had were caught and one lonesome brown trout about 12 inches long was caught and released by the older fellows three times. A few suckers were caught but most of them didn't bite. The remaining fish (about 90) were netted and dumped into Red Creek.

The small amount of chlorine in our city water (approximately .02 ppm) did not appear to affect them at all. The contestants were furnished with 10-foot bamboo poles equipped with line, a small sinker and a #4 hook. No one was hooked or hurt although a few kids fell in while trying to land their catch.

Altogether, we feel that the derby was a great success and created a lot of favorable comment and good will. We received invaluable help from members of the Lockport Conservation Club.

We of the Lions Club and the City Recreation Department wish to thank the Conservation Department for your fine co-operation in helping us to make many kids into future fishermen. We believe that projects such as this are of great value in the prevention of juvenile delinquency.

Nelson C. Goehle,
Superintendent of Parks

The Curious Origin of the CHRISTMAS LOLLYPOP

THE birds and the beasts of the Adirondacks always will remember 1876 as the year of the Simply Stupendous Scare.

Each kind of animal has its own version of what actually happened but everybody seems to agree in general on two basic facts: (1) every night during the Summer of 1876 a mountain exploded with a blinding flash and (2) the flash scared all the local animals right out of their pants.

Now such a fantastic story can't be left dangling without at least attempting to tie up the loose ends. So we turned to our two unfailing sources of general information—the archives of the State Library and a certain wise wild animal who dwells near a lost pond at the foot of a way-way-back peak of the Wolf Jaw Range deep in the Adirondacks wilderness. We won't tell you his name for fear somebody might question whether this particular animal is capable of founding his stories on fact—and especially since *he* was the one who told us how the curious invention of the Christmas lollypop got hooked to this exploding mountain.

Finally we were able to put all the pieces together like this:

After the American Revolution, the new State of New York became owner of a vast region of Crown lands confiscated from Great Britain. This region roughly covered that part of the State comprising the Adirondacks.

For a time it remained forgotten, mysterious wilderness, passed up by the settlers who sought more fertile fields. But the young New York government was hard-pressed for cash. It decided that one of the quickest ways to get it was to sell this wild property. This it did.

Since no funds were available for the State to make accurate boundary surveys of the vast chunks it sold, it had to follow the partly obliterated lines, crudely established by hand compass and blazed on trees before the Revolution.

For a full century prior to 1872, these old bungled surveys remained to mark county lines and the boundaries between estates. Up to then even the charted layout of the lakes was ludicrous. Only a comparative few were shown on the official State maps and most of these appeared to have been put there by slap-happy artists depicting a bunch of assorted gunny sacks spread out to dry.

In 1872, the State Legislature finally decided it was high time to find out at least the true boundaries of the Adirondack counties and probably at the same time establish the most direct pack routes into some of the unexplored lakes where its members could go fishing. So an imaginative, versatile and extremely capable engineer named Verplanck Colvin was hired to superintend the careful survey, exploration mapping of the "inmost recesses of the great wilderness." This Colvin proceeded to do for several years, using a hand-picked collection of complex instruments, guides, packmen and assorted pioneering paraphernalia.

He left behind not only a monumentally complete survey but also a vast and fascinating record of how he did it and what he saw. So we began to read Colvin's daily field notes for 1876 and, sure enough, we finally found what we sought—the story behind the Simply Stupendous Scare!

It seems as how Colvin often stationed small groups of his survey crew on widely scattered mountain peaks to facilitate the work. Each group carried pocket watches or chronometers. These instruments had to keep accurately synchronized time so that observations at different points could be obtained at the same instant. However, the watches often were sufficiently jarred during the action of mountain climbing that their accuracy was disturbed.

So Colvin had a heavy, jar-proof box chronometer lugged to the peak of Mt. Emmons (now Blue Mountain). There each clear Summer night at precisely 9 o'clock by the master time piece he had an attendant touch off a bag of gunpowder. The scattered survey crews set their watches accordingly—the explosion being "easily distinguished even at the St. Regis Mt. station 40 miles away as a sudden, brilliant distant flash."

The imaginative Colvin probably suspected that the region's wildlife would take an exceedingly dim view of this nightly scientific highlight but undoubtedly he never figured that it would lead to lollypops.

For this part of of the story we're indebted to our shy, wild informant back there in the Wolf Jaws.

Each night (he explained) the flash scared all the local animals right out of their pants—that is, all but one. This was the porcupine who never was able to get pants on in the first place. Personally, we don't believe a porcupine ever really *tried*. Instead of losing his pants, porky always lost his perch in the tall tree where he happened to be feeding. Night after night he fell out flat on his back—ka-scrunch! After a couple months of nightly ka-scrunches, you can imagine that things got pretty dull for porky. So he took off for the less active fringes of civilization and found himself a berth under a log house occupied by a very nice guy who lived alone, that is, until mid-December when his little niece arrived to live there, too.

The happy uncle made great secret plans for Christmas. He bought three whole pounds of horehound drops, jelly beans and rock candy. He put the candy into many little bags of bright paper. Then he made a Santa Claus out of cotton batting and old clothes stuffed with moss. Over one padded shoulder he slung a sack and into this he put all the little candy packets.

On Christmas eve when the child was asleep, he climbed up on the roof and propped Santa against the big square bark chimney. In the morning he intended to lower him down the clay-lined flue to provide his sensational surprise.

These proceedings on the roof were witnessed by our friend the porcupine who had just discovered that a lofty limb of a big white pine projected far enough over the chimney, 30 feet below, to become tinctured with the smoke of many salt pork cookings. He chewed happily at his own Christmas package of nicely seasoned bark and paid little attention to all the activity on the roof.

Along toward midnight a neighbor planned his own Christmas surprise.

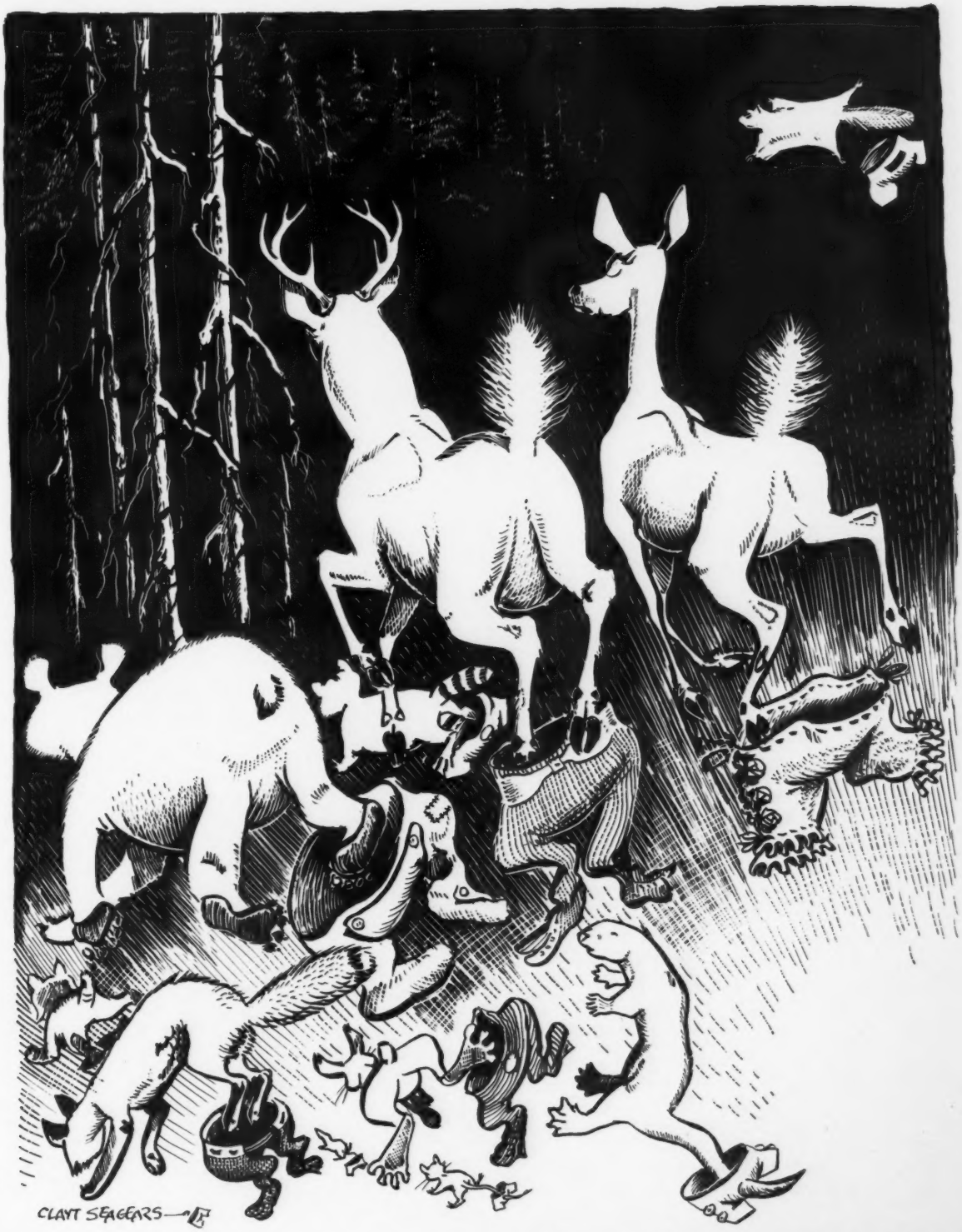
On a stump he put a bag of gunpowder that he had saved from Colvin's Summer signal operations and at midnight he touched it off. The results were positive. Again the local animals jumped out of their pants and again porky fell out of the tree—upside down as usual. All 20 pounds of him landed smack on Santa Claus, knocking him down the chimney into the embers of the fire.

The exploding gunpowder awakened the man and the girl in time to view this startling sooty plunge. He jumped from bed as Santa's mossy middle caught fire. Soon he had the flames controlled but not until some strange objects rolled out on the floor. The little girl's eyes were wet with sudden tears but she could see that they were globs of candy, heat-congealed. Deeply piercing each was the quill of a porcupine. She picked up one by its strange handle. She looked it over and gave it a few speculative licks. Her reaction of quick delight was a wonderful, warming thing to see.

In her hand she clutched, *of course*, the first real lollypop—that hard, sweet, lickable candy on a stick destined to make countless children happy through the world.

Sure we believe in Santa Claus. Don't you?

—CLAYT SEAGEARS

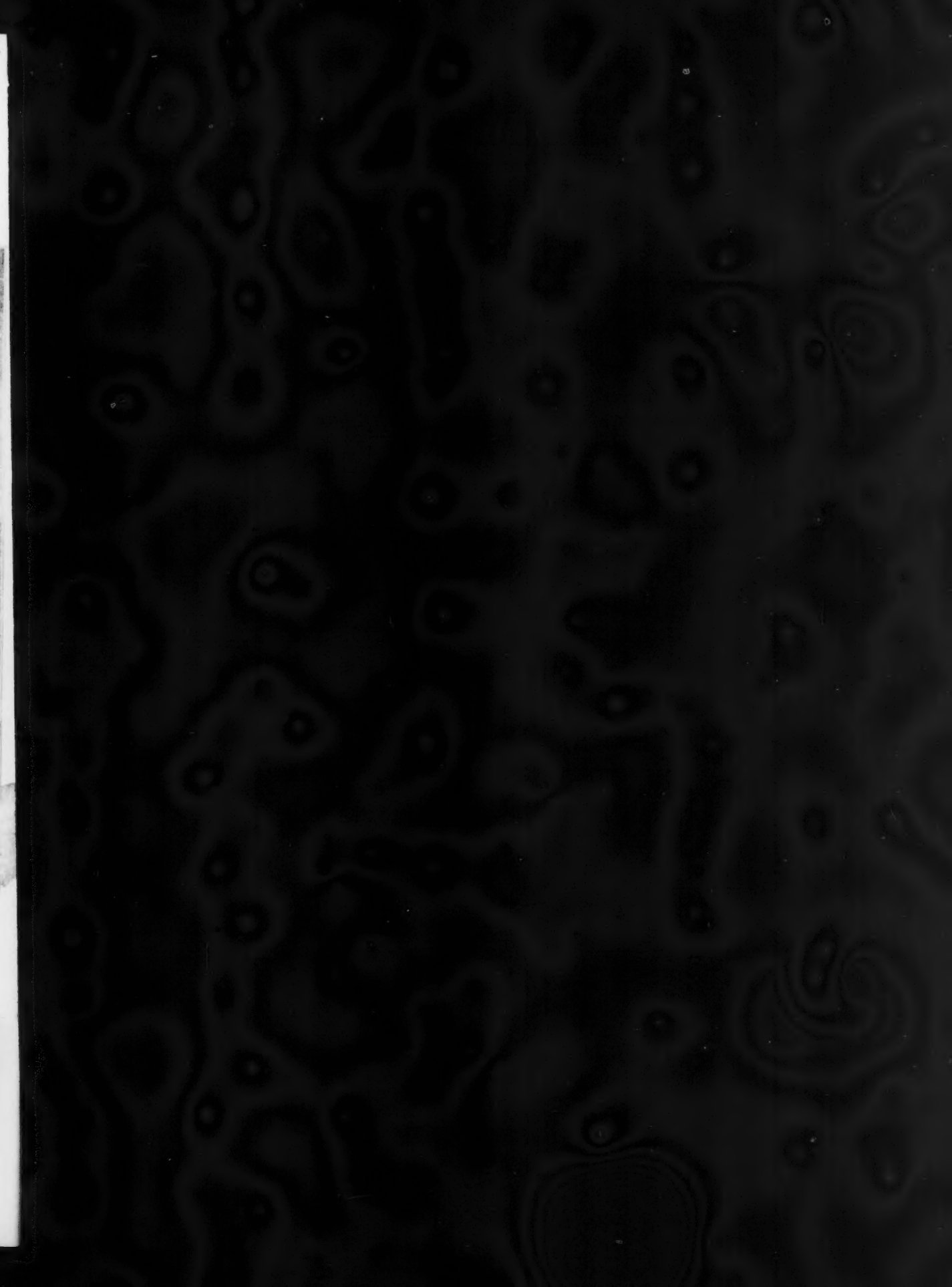


"The flash scared the local animals right out of their pants"

Courtesy N.Y.S. Museum

HAIRY WOODPECKER
Dryobates villosus villosus (Linnaeus)

DOWNY WOODPECKER
Dryobates pubescens medianus (Swainson)

Male Female Female Male

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